



Daniel J. O'Hanlon

January 30, 2015

916.321.4500
dohanlon@kmtg.com

VIA E-MAIL AND U.S. MAIL

Erin Curtis
Public Affairs Officer
Bureau of Reclamation, Mid Pacific Region
2800 Cottage Way
Sacramento, CA 95825
E-Mail: ecurtis@usbr.gov

Re: **Draft Long-Term Plan for Protecting Late Summer Adult Salmon in the Lower Klamath River**

Dear Reclamation:

On behalf of the San Luis & Delta-Mendota Water Authority ("Authority") and Westlands Water District ("Westlands"), we submit this letter to express significant concerns with the Bureau of Reclamation's ("Reclamation") December 31, 2014 Draft Long-Term Plan for Protecting Late Summer Adult Salmon in the Lower Klamath River ("Draft Plan"). The Authority's member agencies, including Westlands, depend on water supplies from the Central Valley Project ("CVP"). The farms and communities they serve have suffered severe harm from CVP allocations reduced by drought and regulations. Now, with no sign the drought is abating, in the Draft Plan Reclamation proposes to worsen the current and any future periods of drought for CVP water users by further draining stored water supplies from the Trinity River Division ("TRD") when conditions are dry in the Klamath River watershed. This stored water will flow to the ocean during the current and future droughts for the purpose of preventing the recurrence of a fish die-off that has occurred only once in recorded history, in 2002. This stored water will be used to address a condition in the lower Klamath River, reduced flows in August and September of some years, that is not caused or contributed to by operations of the TRD.

Reclamation first promised to investigate and develop a long-term plan to address perceived needs for supplemental flows in the lower Klamath River in the summer of 2012. Our clients appreciate that Reclamation has now begun to act on that promise. But the Draft Plan is only a beginning, and it is not a promising beginning. Aside from mistaken new premises regarding Reclamation's legal authority, the Draft Plan reflects little that is new. It reflects no meaningful effort or plan to compensate CVP water and power users for past losses of TRD water, and indeed includes a misguided avowal to not compensate the CVP for any future releases of up to 50,000 acre-feet annually. On the science, it simply adopts the same approach implemented ad hoc the last few years, without questioning the underlying scientific premise that additional flow is necessary or helpful to prevent another fish die-off. It has been prepared without any accompanying environmental review. Much more effort, and a much different plan,

is required. As is, Reclamation's Draft Plan is unlawful, unsupported, and unfair to CVP water and power users.

In a revised plan, Reclamation should focus upon an approach it once employed but has abandoned in recent years. Reclamation can lawfully accomplish its goal of increasing flows in the lower Klamath River by purchasing or exchanging water. That is where Reclamation should direct its future efforts.

I. Reclamation Lacks Authority To Make The Augmentation Releases Described In The Draft Plan

In the Draft Plan, Reclamation identifies a new primary authority for making augmentation releases in the future – the second proviso of Section 2 of the 1955 Act. *See* Draft Plan at 16. The second proviso states: “That not less than 50,000 acre-feet shall be released annually from the Trinity Reservoir and made available to Humboldt County and downstream water users.” Trinity River Division Act, Pub. L. 84-386, 69 Stat. 719 (Aug. 12, 1955) (“1955 Act”) (emphasis added). In the Draft Plan, Reclamation states that it “has determined that it shall administer as a distinct quantity its statutory obligation to release water to Humboldt County as provided for in Section 2 of the 1955 Act.” Draft Plan at 16. Reclamation has not relied on this authority to make augmentation releases in the past, and its new position in the Draft Plan contradicts Reclamation's decades old position that the second proviso provides for consumptive uses, not instream flow for fish.¹

The second proviso of Section 2 of the 1955 Act does not require or authorize releases for instream flow purposes such as the augmentation releases. Instead, as Reclamation understood until it prepared the Draft Plan, this proviso was intended to assure water supply for downstream

¹ In 2003, Reclamation relied on a court ruling as authority to use TRD water “‘at its reasonable discretion’ to prevent a recurrence of the September 2002 fish die-off on the lower Klamath River.” 2003 Environmental Assessment, attached as Exhibit 1, at p. 2; 2003 Finding of No Significant Impact (“FONSI”), attached as Exhibit 2, at p. 2. In 2004, Reclamation planned to use water from two sources: (1) a portion of unreleased water carried over from the 2003 authorization for fall releases, and (2) water that would be acquired from willing sellers in the CVP. 2004 Finding of No Significant Impact / Environmental Assessment re: Purchase of Water from the Sacramento River Water Contractors Association and Supplemental Fall 2004 Releases to the Trinity River, attached as Exhibit 3, at pp. 1, 2. In contrast, in 2012, 2013, and 2014, Reclamation relied on the first proviso of Section 2 of the 1955 Act, specifically the portion that states “the Secretary is authorized and directed to adopt appropriate measures to insure preservation and propagation of fish and wildlife...” 2012 Final Environmental Assessment re: 2012 Lower Klamath River Late Summer Flow Augmentation, attached as Exhibit 4, at p. 3; 2013 Environmental Assessment re: 2013 Lower Klamath River Late-Summer Flow Augmentation from Lewiston Dam, attached as Exhibit 5, at p. 2; Decision Memorandum to Support Emergency Activities for: Emergency Lower Klamath River Flow Augmentation During Late Summer 2014, attached as Exhibit 6, at pp. 1-2.

consumptive needs (i.e. “downstream water users”). This is apparent from the plain text and structure of Section 2: the first proviso directed the Secretary to take “appropriate measures” for fish preservation and propagation, while the second, separate proviso directs that not less than 50,000 acre-feet be released annually and made available to “Humboldt County and downstream water users.” Including two separate provisos reflects a separate purpose for each. *United States v. Alghazouli*, 517 F.3d 1179, 1187 (9th Cir. 2008); *United States v. State of Wash.*, 157 F.3d 630, 643 (9th Cir. 1998). The legislative history of the 1955 Act confirms that the second proviso was for consumptive uses. *See, e.g., Hearing on H.R. 4663 before the S. Subcomm. on Irrigation and Reclamation*, 84th Cong. at 18 (1955), attached as Exhibit 7 (letter from Congressman Hubert B. Scudder). That has been Reclamation’s long-standing administrative interpretation, until now. For example, in 1995 the Assistant Regional Director wrote to the Chair of the Trinity County Board of Supervisors, and explained that this proviso “insures a quantity of water will be available to provide for the consumptive use of Humboldt County and other downstream users, should such use take place. The authorizing legislation requires the maintenance of specified flows for the preservation and propagation of fish and wildlife. The 50,000 acre-feet for downstream beneficial uses was intended for consumptive uses that may develop and require additional releases.”² To date, there has been no demonstration that releases from the TRD are insufficient to meet downstream consumptive uses.

Reclamation’s new reliance on the second proviso as authority is further contradicted by the district court’s recent interpretation of Section 2 of the 1955 Act. In *San Luis & Delta-Mendota Water Authority v. Jewell*, --- F. Supp. 3d ---, 2014 WL 4960786 at *36, *33 n.23 (E.D. Cal. Oct. 1, 2014), the district court held the first proviso authorizes releases only for fish located in the Trinity River basin, not for fish located in the lower Klamath River. In the litigation, Reclamation did not claim any authority for fishery releases under the second proviso. But Reclamation did argue that the second proviso’s reference to “Humboldt County” supports the proposition that the geographic scope of the 1955 Act extends beyond the Trinity River basin to the lower Klamath River. The district court found this argument “unconvincing.”³

The Solicitor’s Opinion issued on December 23, 2014, one week before the Draft Plan was released, does not justify Reclamation’s new position. The Opinion does not have the force of law, and its reasoning is unpersuasive. The Opinion contradicts multiple, long-standing federal administrative interpretations of the 1955 Act, including prior opinions by the Office of the Solicitor. *See* July 1, 1974 Opinion, attached as Exhibit 9; January 21, 1977 Opinion, attached as Exhibit 10. The Opinion fails to address many indications, including prior administrative interpretations, that the second proviso was intended to provide for consumptive uses. It completely ignores the federal district court’s recent analysis that the second proviso,

² *See* January 30, 1995 correspondence from Dan M. Fults, Assistant Regional Director, to S.V. Plowman, Trinity County Board of Supervisors, attached as Exhibit 8.

³ The district court’s various rulings are now the subject of an appeal before the Ninth Circuit Court of Appeals. The Authority and Westlands reserve all legal arguments that they may make in that appeal, and nothing in this letter should be construed otherwise.

like the first proviso, is directed at the Trinity River basin. It does not address the requirements of California water law. In light of these shortcomings and the timing of its release, the Opinion will be due no deference by the courts. *Skidmore v. Swift & Co.*, 323 U.S. 134 (1944). It should not be relied upon by Reclamation for the releases proposed in the Draft Plan, or to excuse the need for avoiding impacts to CVP water contractors from augmentation releases.

The Draft Plan lists six statutes as “general” supporting authority, but offers no explanation how any of these statutes provide authority for augmenting flows for fish in the lower Klamath River. See Draft Plan at 18-19. Accordingly, in these comments we address only briefly why the six listed statutes do not authorize the proposed augmentation releases. First, as explained by the district court in *San Luis & Delta-Mendota Water Authority v. Jewell*, 2014 WL 4960786 at *36, “the 1955 Act is limited in geographical scope to the Trinity River basin and therefore does not provide [Reclamation] with authority to implement the [augmentation releases], which were designed to improve fisheries conditions in the lower Klamath River.” Next, the Trinity River Basin Fish & Wildlife Management Act of 1984 does not authorize augmentation releases, because it only authorizes non-flow measures such as the construction of “facilities” to rehabilitate fish habitat.⁴ The Trinity River Basin Fish and Wildlife Management Reauthorization Act of 1996 does not authorize augmentation releases either, as it does not change the scope of the 1984 Act’s authorization, which is directed at non-flow measures. The Fish and Wildlife Coordination Act requires coordination to evaluate impacts to fish and wildlife from proposed water resource development projects, but does not provide independent authority for augmentation releases. And section 3406(b)(1) of the CVPIA does not authorize the augmentation releases either, because it solely authorizes a program focused on natural production of anadromous fish in Central Valley rivers and streams, a category which does not include salmon in the Trinity or Klamath River basins. See CVPIA § 3403(a) (defining anadromous fish). Finally, the reference to the tribal trust obligation in Section 5 of the Draft Plan is at best misplaced. Regardless of whether augmentation releases would be “consistent with Reclamation’s obligation to preserve tribal trust resources” (Draft Plan at 19), the tribal trust obligation does not confer additional authority on federal agencies; agency authority comes from statutes. *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 585, 589 (1952); *Louisiana Pub. Serv. Comm’n v. F.C.C.*, 476 U.S. 355, 374 (1986). Nor does it obligate the government to take action beyond complying with applicable statutes and regulations. *U.S. v. Jicarillo Apache Nation*, 564 U.S. ----, 131 S. Ct. 2313, 2318 (2011); *Gros Ventre Tribe v. United States*, 469 F.3d 801, 810 (9th Cir. 2006). In sum, none of the laws cited in the Draft Plan authorize Reclamation to make augmentation releases.

⁴ The Act of October 2, 1992 (Pub. L. 102-377), cited in the Draft Plan as “amending” the 1984 Act, simply authorizes additional funds for implementing the Trinity River Basin Fish and Wildlife Management Program; it does not authorize any new actions. Pub. L. 102-377, 106 Stat. 1328. Similarly, the Energy and Water Development Appropriations Act (Pub. L. 104-46) makes only non-substantive amendments to the 1984 Act. Pub. L. 104-46, 109 Stat. 419.

II. Reclamation Must Compensate For Water Supply Impacts To The CVP Resulting From The Augmentation Releases

It is remarkable that the Draft Plan avoids acknowledging anywhere a fact that should be a prime consideration in the development of any long-term plan—that the operations of the TRD do not reduce the flows in the lower Klamath River in August and September each year. Instead, in those months existing minimum releases from the TRD augment, rather than reduce, natural flow in the Trinity River and hence in the lower Klamath River. Through the augmentation releases, therefore, Reclamation is proposing to take the resources of the CVP to address a condition that is not an impact of CVP operations. Further, this condition is in a location outside the Central Valley and Trinity River basins. Given these facts, Reclamation has no statutory authority to simply take CVP water for this use.

Reclamation can, however, accomplish its goal of increasing flows in the lower Klamath River by purchasing or exchanging water to compensate for the use of CVP water. While the Draft Plan briefly mentions that Reclamation has the authority to purchase water to support the augmentation releases, it fails to examine purchasing water from willing CVP water users as an approach that would avoid unlawful water supply impacts to CVP water users. *See* Draft Plan at 24 (mentioning acquisition of water for augmentation flows “in excess” of the 50,000 acre-feet first released in reliance on the 1955 Act). Purchasing water to support the augmentation releases is not a new or novel approach. In fact, it is the approach Reclamation took in the first two years of making augmentation releases. In 2003 and 2004, Reclamation ensured that the Authority’s members, including Westlands, would not suffer water supply losses as a result of the augmentation releases, by exchanging or purchasing water. *See* Draft Plan at 6-7 (describing water exchange with the Metropolitan Water District of Southern California to supply water for 2003 and 2004 augmentation releases); *see also* Exhibit 3, 2004 FONSI (describing Reclamation’s proposal to purchase water from the Sacramento River Water Contractors Association as “willing sellers in the CVP,” to support 2004 augmentation releases). This early approach recognized that Reclamation needed to acquire water to support augmentation releases and avoid water supply impacts to CVP water users from making use of CVP water in the lower Klamath River.⁵

⁵ The 2004 FONSI cites section 3406(b)(3) of the Central Valley Project Improvement Act and 16 U.S.C. section 742f as the statutory authority Reclamation relied on to purchase water from willing CVP sellers to make augmentation releases. Exhibit 3, 2004 FONSI at 2. The Draft Plan fails to discuss these sources of authority for purchasing water to support augmentation releases. For example, 16 U.S.C. section 742f(a)(4) provides that the Secretary of Interior shall “take such steps as may be required for the development, advancement, management, conservation, and protection of fish and wildlife resources including, but not limited to, research, development of existing facilities, and acquisition by purchase or exchange of land and water, or interests therein.” (Emphasis added).

The Draft Plan itself recognizes that Reclamation has the authority “to replace CVP water allocated for augmentation flows,” under Section 14 of the Reclamation Project Act of 1939. *See* Draft Plan at 24. Reclamation must exercise this authority to compensate CVP water users for the estimated 100,000 acre-feet that would have otherwise been released from Keswick Reservoir and been available to serve CVP water users absent the augmentation releases. *See id.* at 21 (acknowledging that the 2012-2014 augmentation releases reduced Keswick Reservoir releases that would have been available to serve CVP water users, by an “estimated 100,000 a-f”). Absent replacement of the lost water, the augmentation releases result in an unauthorized diminishment of CVP water available for CVP uses.

When Reclamation dedicates CVP water for use in the lower Klamath River without purchasing or exchanging water to compensate for that use, it unlawfully burdens its CVP water and power contractors, who ultimately bear the costs of CVP facilities and operations, and breaches its contractual obligations. Reclamation understood this in 2003 and 2004. It understood this in July 2012 when it promised to compensate CVP water and power users if Trinity Reservoir did not refill and moot the loss of stored TRD water. Trinity Reservoir did not refill in 2013, or since. Yet, in 2013 and 2014, Reclamation’s determination to make late summer and fall releases led it to ignore the limits on its authority and its obligations to its contractors. There has been no compensation for the cumulative losses of CVP storage from the augmentation releases in 2012, 2013 and 2014.

The Draft Plan confirms that the 2012-2014 augmentation releases did “adversely impact” CVP water deliveries in 2014, but Reclamation makes no firm commitment to mitigate those impacts. Draft Plan at 21. Instead, the Draft Plan states that “Reclamation will also consider whether to compensate CVP water users for effects related to releases of project water supplies made in 2012, 2013, and 2014” *Id.* at 24 (emphasis added); *see id.* at 25 (stating Reclamation is “currently exploring” the option of purchasing water to compensate for water supply impacts of the 2012-2014 augmentation releases). Reclamation should commit to doing so, to make CVP water users whole for the water supply impacts resulting from the uses of CVP water in the lower Klamath River.

Regarding future augmentation releases, the Draft Plan asserts that “no compensation will be owed to other water or power users for releasing a requested volume to Humboldt County” because allegedly, such requested releases are “an obligation directed by Section 2 of the 1955 Act.” Draft Plan at 22. For the reasons explained above, this new-found interpretation of law is incorrect. Reclamation has no obligation under section 2 of the 1955 Act, or any other statute, to make the proposed augmentation releases. Reclamation must compensate CVP water and power users for impacts resulting from future augmentation releases, including any initial 50,000 acre-feet used for the augmentation releases. *See* Draft Plan at 24 (acknowledging Reclamation’s authority to purchase replacement water). Any long-term plan for using the TRD to increase flows in the lower Klamath River must include the measure that Reclamation itself has previously implemented – acquiring that water by purchase or exchange, rather than simply taking it away from its CVP contractors for use in the lower Klamath River without any

compensation.

In sum, Reclamation has no authority to simply take CVP water for use in the lower Klamath River, and hence any plan to use the TRD for augmentation releases must include compensation for the CVP.

III. The Augmentation Releases Must Be Consistent With State Water Law

In addition to being in excess of Reclamation's statutory authorizations, Reclamation's plan to release water for instream purposes is inconsistent with California water law. The California State Water Resources Control Board has explained that Humboldt County and downstream users must demonstrate a need for the water and obtain water rights permits before they may insist on the release of the water provided for under this proviso of section 2 of the 1955 Act, and Humboldt County and other downstream users have not done so. *See* Aug. 9, 2004 Letter from State Water Resources Control Board to Humboldt County Board of Supervisors, attached as Exhibit 11. The Draft Plan itself confirms that "Humboldt County has indicated that for the long foreseeable future it will have no demand or infrastructure to withdraw [the 50,000 acre-feet of] water . . . for consumptive use purposes." Draft Plan at 22. Thus, the Draft Plan's premise that Humboldt County can direct the release of water from the TRD for instream purposes is inconsistent with state water law.

The Draft Plan is further inconsistent with state law because it does not commit Reclamation to obtaining a change in the place of use for the TRD permits before it makes future augmentation releases. In the Draft Plan, Reclamation states that it "has determined that it should file a petition under Water Code §§ 1701 and 1707 to add the Trinity River below Lewiston Dam and the lower Klamath River below the junction with the Trinity to the place of use for the TRD's permits." Draft Plan at 22 n.18. We agree that Reclamation should file a petition for a change in place of use (and is required to do so by CVPIA § 3411(a) and 43 U.S.C. § 383). A petition must be filed and a change in the place of use obtained *before* Reclamation makes any augmentation releases. Moreover, under California Water Code sections 1707(b)(2) and 1702, respectively, Reclamation must demonstrate that this change will not "unreasonably affect any legal user of water" and will not "operate to the injury of any legal user of the water involved." Thus, Reclamation will be required to compensate its CVP contractors for the water cost of the augmentation releases, to avoid the injury that would otherwise occur. This "no injury" rule of state law provides another reason why Reclamation must purchase or exchange water, not simply take from CVP supply, to accomplish the augmentation releases it proposes.

IV. The Science Underpinning The Draft Plan Is Uncertain And The Draft Plan Is Inadequate

The Draft Plan lacks scientific support and does not provide the level of analysis or inquiry necessary for a suitable long-term management plan. The Draft Plan fails to acknowledge the scientific uncertainty regarding the causative factors of the 2002 fish die-off in the lower Klamath River. In addition, the Draft Plan presumes the augmentation releases will

provide a variety of benefits, without any further analysis or testing of those presumed benefits, or consideration of data developed in 2014. *See* Draft Plan at 13. It is evident that the Draft Plan is the result of haste and a pre-determined flow-centric approach, rather than of an objective and thoughtful analysis of conditions in the lower Klamath River and available options. A long-term plan requires more.⁶

There is no convincing evidence that augmentation releases are necessary to prevent, or will prevent, a repeat of the 2002 die-off. The Draft Plan states that “[h]igh fish densities due to the relatively large run size (approximately 170,000), low flows, and relatively high water temperatures were identified as contributing factors to the rapid spread of disease” in 2002 (Draft Plan at 5), but the Draft Plan does not identify any convincing evidence that augmentation releases are an effective tool to address these factors. The mechanism causing an Ich outbreak that will result in a large scale fish die-off is not well understood. This fact is demonstrated by conditions in 2014, when “severe” levels of Ich infection were detected in numerous fish (*see* 2014 Ich Outbreak Powerpoint, Yurok Tribal Fisheries Program, attached as Exhibit 12), yet no larger outbreak or fish die-off occurred. In fact, in 2014 Ich infection was highest in the upper Klamath River, which is an area unaffected by augmentation releases from the TRD. *See* September 13, 2014 Draft Technical Memorandum from Yurok Tribal Fisheries Program; Klamath River Division re: Update on Prevalence and Severity of “Ich” Infections in Klamath River Adult Chinook Salmon, attached as Exhibit 13. Despite this level of infection, which was a trigger for emergency releases from the TRD, there was no fish mortality event in the upper Klamath River. This indicates that the 2014 augmentation releases were not the controlling factor in preventing a mortality event in the lower Klamath River, because there was no such event in the upper Klamath River despite high levels of Ich infection.

The Draft Plan is further deficient because it proposes the same infection rate criteria for emergency releases that were developed before the 2014 data were available. Draft Plan at 16. The experience in 2014 warrants a reconsideration of those criteria before a long-term plan is adopted, not after. Likewise, the Draft Plan adopts the same “doubling” of flow for emergency releases suggested by prior memoranda without any new justification or data to support why doubling flow is necessary. (*Id.*) The court in *Jewell* specifically noted that “there appears to be no scientific basis for [the flow doubling] part of the [emergency release] proposal.” *San Luis & Delta-Mendota Water Authority v. Jewell*, 969 F. Supp. 2d 1211, 1225 n.7 (E.D. Cal. 2013). In addition, recent projections of run size, which play a key role in determining whether triggers for preventative and emergency releases are met, have been over estimates.⁷ These and other

⁶ The Draft Plan contains a note stating that it contains “detailed information” that will “likely be reduced in scope or eliminated entirely in the final version.” Draft Plan at 4. The level of analysis and explanation underlying the Draft Plan is already sorely inadequate, and it is dismaying that the final version of the plan could be even more lacking.

⁷ *See* Draft Plan at 7 n. 6 (noting that actual run size in 2012 was “21 percent below the PFMC projection”); *id.* at 8, 10 (identifying projected 2013 run size of 272,000 adults and actual estimated run size as 165,100 adults [i.e. 60% below projection]); *id.* at 11-12, 15

uncertainties call the criteria for releases in the Draft Plan into serious question and require reexamination. Reclamation should not adopt a long-term plan without addressing these uncertainties.

In apparent recognition of the fundamental uncertainty underlying the necessity for and efficacy of the releases, the Draft Plan waffles on the criteria Reclamation will ultimately apply when deciding whether to make releases each year. It provides that “at this writing Reclamation will consider whether flow augmentation is necessary when the fall Chinook in-river run size is projected to be 170,000 or greater and flows in the lower Klamath River are forecast to be 2500 cfs or lower.” Draft Plan at 15. However, it “[r]ecogniz[es] that criteria will evolve,” and maintains that Reclamation may make releases “irrespective of” thresholds. *Id.* at 15. The Draft Plan states that Reclamation may alter the flow rates and duration of future augmentation releases (*id.* at 17), and release additional water beyond initially determined flows (*id.* at 18). Further, it is not clear from the Draft Plan how the occurrence or volume of such releases will relate to the releases Reclamation may make when requested by Humboldt County under Reclamation’s new-found interpretation of the second proviso in Section 2 of the 1955 Act. This all indicates that more work is required to develop a definite plan. The only thing clear now from the Draft Plan is that Reclamation intends to make substantial releases of water from the TRD for fish in the lower Klamath River in late summer and early fall, without having carefully thought that through.

It is dismaying that none of the criteria listed in Section 4 of the Draft Plan as relevant to a decision regarding whether to make augmentation releases in a year address the impact such releases have on the CVP. Instead, the sole focus of the listed criteria is the “potential for a significant fish die-off event” in the lower Klamath River. Draft Plan at 15. This focus is too narrow, and indeed unlawful. For example, in the fall of 2014 Reclamation was unable to maintain appropriate temperatures for Sacramento winter-run chinook salmon rearing in the upper Sacramento River, resulting in substantial temperature related mortality. That inability resulted at least in part from the cumulative loss of storage in the TRD caused by the 2012-2014 augmentation releases. Reclamation did not consult with the National Marine Fisheries Service under section 7 of the federal Endangered Species Act (“ESA”) regarding the impact of any of these augmentation releases. As discussed below, it must do so before making future releases. Yet, the criteria in the Draft Plan do not provide for meeting Reclamation’s ESA obligations. The long-term plan should expressly provide that before making releases in a year, Reclamation will investigate and consider conditions across the CVP, and assess the impacts of augmentation releases would have on its ability to meet its obligations, including to its CVP contractors. The long-term plan should expressly provide that Reclamation may decide not to make augmentation releases in a year because of such impacts, even if there is believed to be some potential a fish die-off in the lower Klamath River. The Draft Plan is deficient because it reflects a myopic

(describing decision to make 2014 augmentation releases, despite relatively low projection of 92,800 adults, far below stated criterion of 170,000 or greater run size).

disregard of the many consequences of augmentation releases and the full scope of Reclamation's responsibilities.

V. A Long-Term Plan Cannot Be Finalized Until Reclamation Conducts The Required Environmental Analysis

A. Reclamation Must Prepare An EIS For The Long-Term Plan

The National Environmental Policy Act ("NEPA"), 42 U.S.C. section 4321 *et seq.*, requires a Federal agency to prepare an environmental impact statement ("EIS") if it will be undertaking a major Federal action which significantly affects the quality of the human environment. 42 U.S.C. § 4332(2)(C); *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 763 (2004). As Reclamation is aware, in the *Jewell* litigation regarding augmentation releases in 2012 and 2013, the Authority and Westlands contended that those annual release decisions required preparation of an EIS. In that litigation, the Authority and Westlands presented substantial evidence and explanation to the court and Reclamation regarding the multiple, significant environmental impacts resulting from augmentation releases. We incorporate that information by reference in these comments. The releases contemplated by the Draft Plan will have even greater potential effects, because it is a long-term plan intended to guide multiple years of TRD operations.

There can be no reasonable dispute that the long-term plan and its contemplated augmentation releases are major Federal actions that will have significant effects on the human environment. The Draft Plan acknowledges that "in 2014 the cumulative augmentation release volume of 120,500 a-f [for years 2012-2014], coupled with the extremely [sic] drought, did adversely impact CVP operations and water deliveries in 2014, as well as temperature compliance efforts in the Sacramento River and the Trinity River." Draft Plan at 21. The Draft Plan likewise confirms that future augmentation releases are anticipated to reduce hydroelectric power production, reduce water supply, and reduce cold water pool volume at both Shasta and Trinity reservoirs. *Id.* at 22. The Draft Plan thus evidences that the long-term plan and its augmentation releases constitute major federal actions that may have significant environmental impacts, including but not limited to, water supply and power impacts and impacts to threatened or endangered species. Due to the demonstrated environmental effects of past augmentation releases, Reclamation must prepare an EIS for its long-term plan to evaluate the potential impacts of future augmentation releases.

The Draft Plan equivocates regarding whether Reclamation will comply with NEPA regarding adoption of the Draft Plan. It states that "Reclamation is currently evaluating the benefits of preparing a NEPA analysis on this long-term plan . . ." Draft Plan at 23. Under the contemplated NEPA approach, "Reclamation would base the analysis on a projection of the highest anticipated release volume and any subsequent-year variations in the augmentation flow regime beyond those described in the initial-year document would be addressed separately." *Id.* The Authority and Westlands urge, and NEPA requires, Reclamation to prepare an EIS for the long-term plan prior to its adoption. Among other things, the EIS will need to evaluate the

cumulative impacts of concurrent years of significant augmentation releases over multiple dry years, including potential impacts to water supply, power generation, and listed species and their critical habitat.⁸

The discussion of impacts in the Draft Plan is incomplete, and in any event, does not substitute for an EIS. Although the Draft Plan acknowledges some adverse impacts to water supply and power generation from releases in 2012, 2013, and 2014 (*see* Draft Plan at 21), it fails to adequately discuss, for example, the impact of augmentation releases on cold water pool management and the resulting impacts to ESA-listed salmon species in the Sacramento River, which have been acknowledged recently by a number of different agencies.⁹ The Draft Plan does not explain how similar impacts to listed species will be avoided in the future. Additionally, the Draft Plan fails to acknowledge possible impacts to other fish from making the releases. In 2014, for example, the releases may have played a role in causing a die-off of kokanee salmon in Lewiston Lake.¹⁰ It barely acknowledges the impacts of water shortages within the contractor service area, despite acknowledging that absent the augmentation releases more water would have been available in 2014 for at least “in-basin water needs in the Sacramento Valley and the Delta, and for senior priority water supplies south of the Delta.” Draft Plan at 21. A full analysis of impacts from the long-term plan, in an EIS, is required.

An EIS is not only mandated by law, but should improve the quality of Reclamation’s decisionmaking. Preparation of an EIS should include a meaningful exploration of alternatives,

⁸ The Draft Plan is unclear regarding Reclamation’s approach to projecting the “highest anticipated release volume” for analyzing the potential impacts of the long-term plan. Draft Plan at 23. The Draft Plan indicates that Reclamation may assume that releasing 50,000 a-f is the “worst-case scenario.” *Id.* at 23. However, in 2014, the augmentation releases totaled 64,000 a-f. *Id.* at 12. And in 2012 and 2013, Reclamation considered making releases of up to 92,800 a-f and 64,800 a-f respectively, if “emergency” releases were deemed necessary. *See id.* at 8-9. It is critical that the EIS evaluate impacts associated with making augmentation releases that include emergency releases and the cumulative impacts of making augmentation releases over multiple dry years.

⁹ *See e.g.* October 3, 2014 correspondence from William Stelle, Jr., Regional Administrator, National Marine Fisheries Service, to David Murillo, Regional Director, Bureau of Reclamation, attached as Exhibit 13, at 4-5 (stating that in 2014 the temperature compliance criterion of 56°F for protection of winter-run Chinook salmon in the Sacramento River was exceeded for over “half of August and from September 3, 2014 to [October 3, 2014]) and linking temperature exceedances to “the reduction in the cold water pool in Shasta Reservoir”); *see* Draft Plan at 13 (briefly mentioning the augmentation releases’ potential impacts to achieving temperature objectives in the Sacramento River).

¹⁰ *See, e.g.,* September 2, 2014 article by B. Siemerre Kokanee Salmon Die-off, available online at <http://anewscafe.com/2014/09/02/kokanee-salmon-die-off-prompts-questions-no-official-explanation/>.

and a critical examination of the benefits and the full costs of the augmentation releases. The Draft Plan reflects an absence of either.

B. Reclamation Must Conduct ESA Consultation On The Long-Term Plan

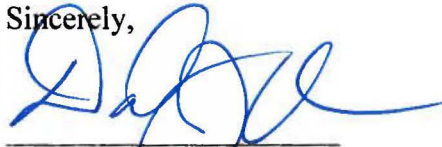
Section 7 of the ESA imposes a duty on all Federal agencies “to consult with either the Fish and Wildlife Service or the NOAA Fisheries Service before engaging in any discretionary action that may affect a listed species or critical habitat.” *Karuk Tribe of California v. U.S. Forest Service*, 681 F.3d 1006, 1020 (9th Cir. 2012) (emphasis added); 16 U.S.C. § 1536(a)(2). The “may affect” standard for triggering ESA consultation is a “relatively low” threshold. *Cal. ex rel. Lockyer v. U.S. Dep’t of Agric.*, 575 F.3d 999, 1018 (9th Cir. 2009). Here, it is evident that previous augmentation releases have affected listed species and their critical habitat, and therefore, there is strong reason to believe that future augmentation releases, at a minimum, “may affect” listed species or their critical habitat. Reclamation must therefore conduct ESA consultation regarding the potential effects of the long-term plan’s augmentation releases on listed species.

The Draft Plan confirms that augmentation releases are anticipated to reduce the cold water pool volume in storage used to maintain temperatures for the protection of downstream threatened and endangered fish species. The Draft Plan discloses that future augmentation releases are anticipated to “reduce cold water pool volume at both Shasta and Trinity reservoirs” and that resulting “temperature management impacts occur in the Sacramento River Basin due in part to reduced imports of relatively colder Trinity River water and therefore may require an increase in cold water releases from Shasta Reservoir to achieve the same downstream temperatures.” Draft Plan at 22. Indeed, there have been widespread reports of high rates of mortality of juvenile winter run salmon in the upper Sacramento River due to excessive water temperatures in 2014. Yet, as with NEPA compliance, the Draft Plan is equivocal about ESA compliance. Despite the acknowledged impacts of augmentation releases on storage, the Draft Plan states that these cold water pool effects “may be significant enough to require consultation under the ESA.” Draft Plan at 23 (emphasis added). To the contrary, it is evident that the augmentation releases identified in the Draft Plan well exceed the “may affect” threshold for triggering ESA consultation.¹¹ The “significant” effect standard proposed by the Draft Plan is not the law, but even if it were, it is met here. Reclamation must therefore conduct ESA consultation before finalizing and implementing any long-term plan.

¹¹ See note 9, *ante*; see also Exhibit 13 at 4-5 (describing temperature impacts to winter-run and spring-run Chinook salmon in the Sacramento River due to reduced cool water pool, caused in part, by augmentation releases from the TRD); 2014 “Effects of Drought and CVP/SWP Operations on Fish” Powerpoint, U.S. Fish and Wildlife Service, California Department of Fish & Wildlife; National Oceanic Atmospheric Administration at Slides 9-15, attached as Exhibit 15 (showing temperature impacts on winter-run Chinook salmon in the Sacramento River).

Thank you for your consideration of these comments.

Sincerely,



Daniel J. O'Hanlon
On behalf of the San Luis & Delta-Mendota Water
Authority and Westlands Water District

Attachments

- Exhibit 1: 2003 Environmental Assessment re: Late-Summer 2003 Preventative Trinity River Flow Releases for Protection of Fall Run Chinook Salmon
- Exhibit 2: 2003 Finding of No Significant Impact re: Late-Summer 2003 Preventative Trinity River Flow Releases for Protection of Fall Run Chinook Salmon Environmental Assessment
- Exhibit 3: 2004 Finding of No Significant Impact / Environmental Assessment re: Purchase of Water from the Sacramento River Water Contractors Association and Supplemental Fall 2004 Releases to the Trinity River,
- Exhibit 4: 2012 Final Environmental Assessment re: 2012 Lower Klamath River Late Summer Flow Augmentation
- Exhibit 5: 2013 Environmental Assessment re: 2013 Lower Klamath River Late-Summer Flow Augmentation from Lewiston Dam
- Exhibit 6: Decision Memorandum to Support Emergency Activities for: Emergency Lower Klamath River Flow Augmentation During Late Summer 2014
- Exhibit 7: *Hearing on H.R. 4663 before the S. Subcomm. on Irrigation and Reclamation, 84th Cong. (1955), excerpt including letter from Congressman Hubert B. Scudder*
- Exhibit 8: January 30, 1995 correspondence from Dan M. Fults, Assistant Regional Director, to S.V. Plowman, Trinity County Board of Supervisors
- Exhibit 9: July 1, 1974 Memorandum from Assistant Regional Solicitor to Regional Director, Bureau of Reclamation re: Request for opinion re authority of the Secretary of the Interior to alter present functions and accomplishments of Trinity River Division, Central Valley Project

- Exhibit 10: January 21, 1977 Memorandum from Regional Solicitor to Field Supervisor, Division of Ecological Services, U.S. Fish & Wildlife Service re: Trinity River Division, CVP – Reconsideration of July 1, 1974 Memorandum to Regional Director, Bureau of Reclamation, Concerning Section 2 of the Trinity River Division Act
- Exhibit 11: August 9, 2004 Correspondence from State Water Resources Control Board to Humboldt County Board of Supervisors
- Exhibit 12: 2014 Ich Outbreak Powerpoint, Yurok Tribal Fisheries Program
- Exhibit 13: September 13, 2014 Draft Technical Memorandum from Yurok Tribal Fisheries Program; Klamath River Division re: Update on Prevalence and Severity of “Ich” Infections in Klamath River Adult Chinook Salmon
- Exhibit 14: October 3, 2014 correspondence from William Stelle, Jr., Regional Administrator, National Marine Fisheries Service, to David Murillo, Regional Director, Bureau of Reclamation
- Exhibit 15: 2014 “Effects of Drought and CVP/SWP Operations on Fish” Powerpoint, U.S. Fish and Wildlife Service, California Department of Fish & Wildlife; National Oceanic Atmospheric Administration (Excerpt)

EXHIBIT 1

AUG-21-2003(THU) 13:28 BUREAU OF RECLAMATION

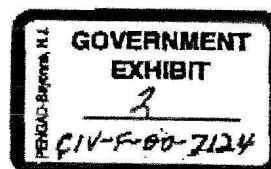
(FAX) 530 275 2441

P.009 015

ENVIRONMENTAL ASSESSMENT**Late-Summer 2003 Preventative Trinity River Flow Releases for
Protection of Fall Run Chinook Salmon****FINAL**

U.S. Bureau of Reclamation
Trinity River Restoration Program
P.O. Box 1300
1313 South Main Street
Weaverville, CA 96093
Phone: 530-623-1800
Fax: 530-623-5944

August 20, 2003



AUG-21-2003(THU)

13:28

BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.010 017

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

SUMMARY

In September, 2002, a substantial portion of the returning Trinity River fall run Chinook salmon died during a large-scale die-off in the lower Klamath River. Federal and State biologists studying the die-off concluded that: (1) pathogens *Ichthyophthirius multifiliis* (Ich) and *Flavobacterium columnare* (Columnaris) were the primary causes of death to fish; (2) warm water temperatures, low water velocities, high fish density, and long fish residence times likely contributed to the outbreak of the Ich epidemic; (3) water temperatures, river stage, and channel geometry probably interacted to stall adult salmon migration; and (4) events of 2002 demonstrate that a major fish die-off can occur during low flow conditions.

In response to this fish die-off, the U.S. Department of the Interior (USDOI) submitted a report to Judge Oliver Wanger, U.S. District Court, on March 18, 2003, entitled *Recommendations for Averting Another Adult Salmonid Die-Off (March 18th Plan; USDOI 2003)*, to justify additional water allocation to the Trinity River in fall 2003. Subsequently, on April 4, 2003, Judge Wanger issued a court ruling allowing the Bureau of Reclamation (Reclamation) to use an additional 50,000 acre-feet (af) of water from the Trinity River Division of the Central Valley Project "at its reasonable discretion" to prevent a recurrence of the September 2002 fish die-off on the lower Klamath River (U.S. District Court 2003b).

The Trinity River Restoration Program (TRRP) facilitated an update to the March 18th plan that included additional scientific information and stakeholder input, during July 2003. In particular, the March 18th plan was revised to include: (1) a new proposed alternative and final decision criteria for evaluating environmental triggers that would initiate Judge Wanger's ruling, (2) a daily flow schedule, (3) and a monitoring/evaluation plan. The revised report, entitled *An Action Plan to Minimize Risk of Die-Off of Trinity River Fall Run Chinook Salmon in 2003 (Action Plan, August 6, 2003; TRRP 2003b)*, was unanimously endorsed by the TRRP's supporting stakeholder group, the Trinity Adaptive Management Working Group (TAMWG¹). On July 30, 2003, the TRRP's governing body, the Trinity Management Council (TMC) voted 7 to 1 in favor of the August 6 *Action Plan*, and on August 8, 2003, Reclamation transmitted the *Action Plan* to Secretary of the Interior Gale Norton with a recommendation that it be implemented if its "trigger" requirements were met.

The *Action Plan* uses a conservative risk management approach to avert another fish die-off in 2003, and recognizes that the biological consequences of another die-off could have severe long-term implications for recovery of fall run Chinook salmon populations in the Trinity River. The *Action Plan* contains two flow components. The first

¹ The Trinity Adaptive Management Working Group (TAMWG) was specifically established to give stakeholders a formal avenue of participation in the Trinity River Restoration Program. The Secretary of the Interior announced the appointment of the 19-member group on November 14, 2002. Members represent a broad range of public interests including: Trinity Lake marinas, small businesses in the Trinity River basin, Central Valley water users, sport fishing groups, long term local residents, scientific interests, river outfitters and guides, forest land owners and managers, whitewater rafters/kayakers, electrical power users, watershed restoration and conservation groups, gold dredgers, and commercial ocean fishing operations.

AUG-21-2003(THU)

13:28

BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.011 013

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

component is a preventative flow release, using 33,000 acre-ft (af) of water. The preventative flow is intended to reduce the likelihood of a large scale fish die-off by ensuring adequate conditions for adult upstream migration through the lower Klamath River. The second component is an emergency response flow release, using an additional 17,000 af of water. This flow would be implemented to decrease the severity of a fish die-off if real-time monitoring indicates a rapid spread of the incidence of the disease Ich.

The *Action Plan* contains triggers for separately initiating the preventive and emergency response flow releases. Triggers for initiating the preventive flow release have been met as of August 20, 2003, including: (1) a fall run Chinook salmon population size estimate of greater than 110,000 for the Klamath Basin, and (2) a flow of less than 3,000 cfs in the lower Klamath River. The triggers for initiating the emergency response flow release would be an estimated doubling in less than 7 days of either the incidence (proportion of fish infected) or severity (number of parasites per gill) of Ich. Evaluation of these triggers would be based on real-time monitoring of disease incidence to be conducted in the lower Klamath River in the geographic locations of the die-off that occurred in 2002.

PROJECT SETTING

Implementation of the proposed action is limited to late summer 2003 flow releases from Trinity Dam, however, the affected environment occurs between Lewiston Dam and the Klamath River estuary near Klamath, California.

PURPOSE AND NEED

The purpose of implementing the proposed action is to increase Trinity River flows to reduce the likelihood, and potentially reduce the severity, of a fish die-off occurring in 2003, by providing flows known to be adequate for unimpaired salmon migration through the lower Klamath River. The proposed action of increasing flows should reduce or eliminate adverse in-river conditions that contributed to the fish die-off in 2002, as discussed in the Summary. The draft report entitled, "*September 2002 Klamath River Fish Kill: Preliminary Analysis of Contributing Factors*" (California Department of Fish and Game (CDFG), January 2003) identified crowded holding conditions for pre-spawn adults, warm water temperatures, and presence of disease pathogens (i.e., Ich and Columnaris) as the likely major factors which caused a disease epidemic and resulted in the die-off. It is surmised that the large run size coupled with low flow conditions increased fish densities locally in places of thermal refuge and below riffles.

The need for implementing the proposed action is both biological and legal in nature. In 2002, low flow conditions in the lower Klamath River, warm water temperatures, and an above average fall run Chinook salmon escapement combined to create conditions favorable to an epizootic outbreak resulting in a fish die-off. The biological consequences of a die-off in two consecutive years would substantially impact present efforts to restore the native Trinity River anadromous fish community and fishery. Reductions in the Trinity River fish population can affect Tribal fishery harvest opportunities, ocean harvest levels, recreational fishing, as well as public perception and recovery mandates. Last year's loss of 3 year-old and a potential loss of 4 year-old fish from the 1999 brood year affect the population structure, and may impede recovery goals

AUG-21-2003(THU) 13:29 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.012 015

**Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA**

authorized by the Trinity River Division Central Valley Project Act of 1955 (P.L. 84-386), the Trinity River Basin Fish and Wildlife Act of 1984 (P.L. 98-541), and the Central Valley Project Improvement Act of 1992 (P.L. 102-575), for naturally produced fall run Chinook salmon.

In a March 5, 2003 court hearing, Judge Oliver Wanger directed the Department of the Interior to determine what actions would be necessary to "assure against the risk of fish losses that occurred late in the season last year" (U.S. District Court 2003a). Judge Wanger subsequently issued a ruling on April 4, 2003 allowing Reclamation to use an additional 50,000 af from the Trinity River Division of the Central Valley Project "at its reasonable discretion" to prevent a recurrence of the September 2002 fish die-off (U.S. District Court 2003b).

Projected flow conditions and a large fall run Chinook salmon escapement on the lower Klamath River in 2003 are very similar to conditions that existed during the die-off in 2002. The two triggers established for initiating the preventive flow release (low flow and a large return of fall run Chinook salmon) have already been met as of August 20, 2003. Therefore, Reclamation is considering implementing the proposed action as a preventative means to reduce the likelihood of another fish die-off in 2003.

PUBLIC INVOLVEMENT AND STAKEHOLDER PARTICIPATION

An initial presentation of increased late-summer Trinity River flows options and request for written comments was given at the TMC meeting on June 26, 2003 (June 26, 2003 memorandum; TRRP 2003a). Written comments were received through July 18, 2003, (Appendix A, Response to Comments Received). A technical workgroup of state, federal, and tribal biologists was convened on July 23 and 24, 2003, to consider comments received and evaluate the alternatives. That group developed a revised alternative, the Action Plan Flows option that addresses these concerns. Additional updates were provided to a broadly representative group of stakeholders (see footnote 1, page 2) on July 29, 2003, at a TAMWG meeting in Weaverville, California (U.S. Fish and Wildlife Service (USFWS) 2003), and a TMC conference call on July 30, 2003. A letter of support for the proposed action was forwarded directly to the Secretary of the Interior from the TMC and TAMWG in a letter dated August 8, 2003.

ALTERNATIVES

Alternative 1 - No Action Alternative

Under this alternative, releases from Lewiston Dam would remain at 450 cfs summer base flow conditions as described in the Trinity River Mainstem Fishery Restoration Environmental Impact Statement/Environmental Impact Report (EIS/EIR). Summer base flows generally occur between June and early October. In odd numbered years, Reclamation increases Lewiston Dam releases above 450 cfs to provide water for the Hoopa Valley Tribe's White Deerskin Boat Dance Ceremony (Ceremony). This year, the Ceremony will require Lewiston Dam releases to be ramped up from 450 cfs on August 24 to a peak of 1,650 cfs on August 25. Without implementation, of either alternative 2

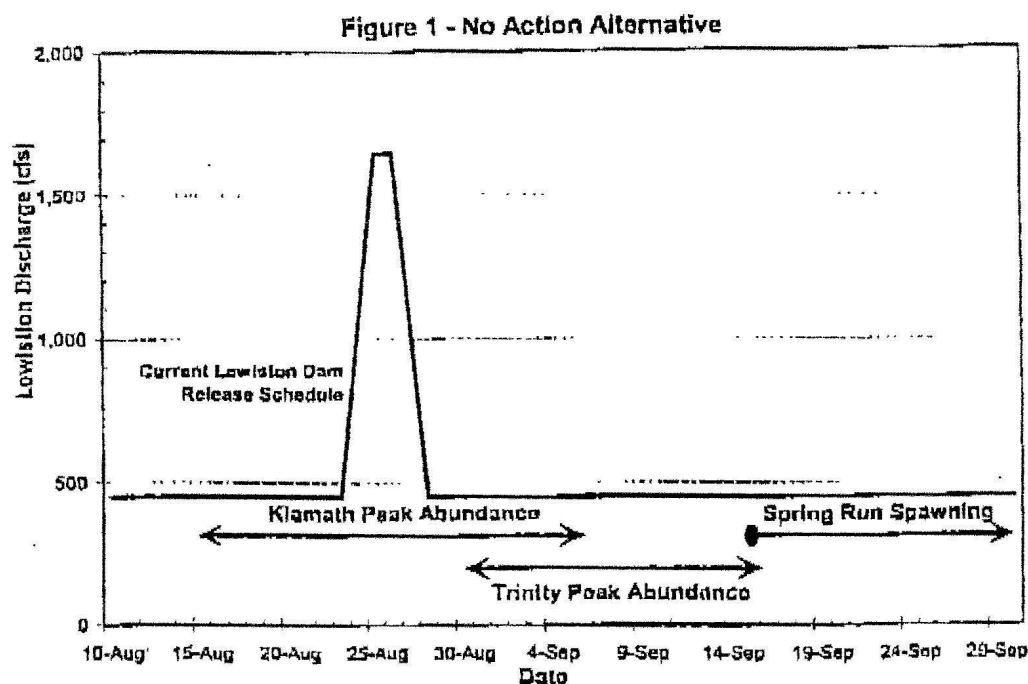
AUG-21-2003(THU) 13:29 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P. 013-015

**Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA**

or 3, flows would be ramped down to 450 cfs on August 26. Figure 1 displays the hydrograph for the 2003 No Action Alternative.



Alternative 2 - Hybrid Pulsed/Sustained Flow

This alternative (with 2 options) was proposed in the March 18th Plan and recommends implementing a minimum of two 2,000 cfs pulse flow releases from Lewiston Dam. Figure 2 displays the hydrograph for the Hybrid Pulsed/Sustained Flow Alternative. Flows for each pulse would be increased from 450 to 2,000 cfs over a 24 hour period, held at 2,000 cfs for two days, and ramped down to 450 cfs over a 24 hour period. The first two pulses would occur between August 17 and 29. In the first option, 3 additional pulse flows of 2,000 cfs would follow and occur in September. Combined, the 5 pulse flows would require 34,805 af of water over baseflow volume. Biologists would conduct real-time monitoring to assess how successful these pulses were at dispersing fish and initiating upstream migration.

If the first two pulse flows were shown to be ineffective at dispersing fish and initiating adult migration, biologists would then initiate the second option. The second option recommends a sustained release of 1,500 cfs, between September 1 and September 17. This option would require 59,096 af over baseflow volume.

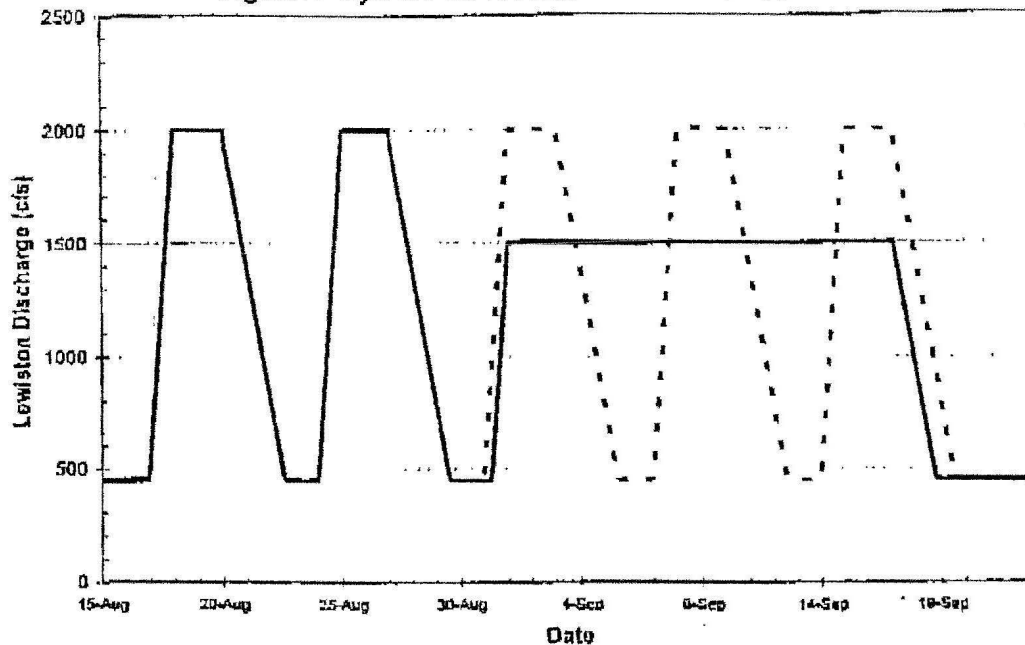
AUG-21-2003(THU) 13:29 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.014 015

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

Figure 2 - Hybrid Pulsed / Sustained Flow Alternative



Alternative 3 - Action Plan Flows (Proposed)

This proposed alternative contains both the preventive and emergency flow release components of the *Action Plan*. The hydrograph for the Action Plan Flows Alternative is displayed in Figure 3. The preventive flow release would be implemented on August 27, immediately following peak flow releases for the Ceremony. After the Ceremony peak flow of 1,650 cfs, a gradual ramp down would begin, reaching 1,000 cfs on September 15. A return to the summer base flow of 450 cfs would be completed on September 17. A total of 33,000 af of water would be used for this alternative. If triggered, the emergency flow release would involve a 5-day release of 2,000 cfs from Lewiston Dam for an estimated total volume of 17,000 af above baseflow volume. Combined, the preventive and emergency flow response would not exceed 50,000 af over the baseflow volume.

The *Action Plan* contains triggers for separately initiating the preventive and emergency response flow releases. Triggers for initiating the preventive flow release have been met as of August 20, 2003, including: (1) a fall run Chinook salmon population size estimate of greater than 110,000 for the Klamath Basin, and (2) a flow of less than 3,000 cfs in the lower Klamath River. The triggers for initiating the emergency response flow release would be an estimated doubling in less than 7 days of either the incidence (proportion of fish infected) or severity (number of parasites per gill) of Ich. Evaluation of these triggers would be based on real-time monitoring of disease incidence to be conducted in the lower Klamath River in the geographic locations of the die-off that occurred in 2002.

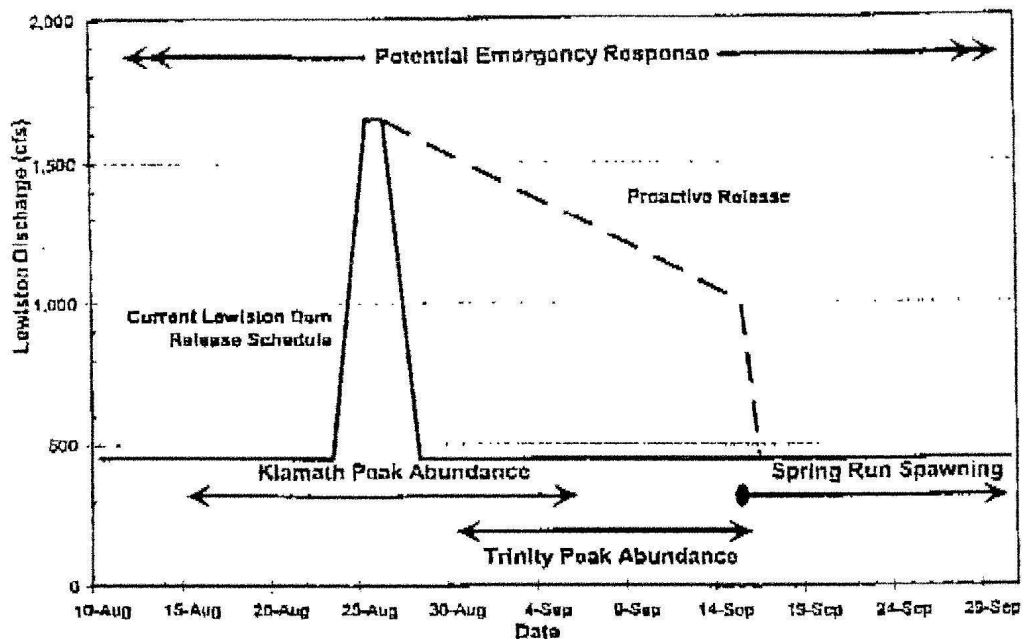
AUG-21-2003(THU) 13:29 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.015 015

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

Figure 3 - Preferred Alternative (Action Plan Flows)



Alternatives Considered But Eliminated from Further Consideration

Two alternatives from the March 18th plan were also considered but eliminated for the following reasons:

Sustained Flow

This alternative would increase flows from 450 cfs on August 14. Flows would be held at 1,500 cfs from August 15 through September 15, and would then ramp down to 450 cfs on September 18. This flow scenario would use 69,200 af of water over base flow conditions and have the largest effect on lowering the temperature of Klamath River water. However, this alternative was eliminated because it was not conservative in its use of water and because the Sustained Flow water release would represent an unnaturally high and consistent baseflow for the late-summer season.

Pulsed Flow

This alternative recommends use of four pulse flows occurring between August 17 and September 12. The first two pulses would ramp up rapidly from 450 cfs to 2,000 cfs, flows would be held at 2,000 cfs for two days, and would then ramp down to 450 cfs. The second two pulse flows would be identical to the first except that peak flows of 2,000 cfs would only be held for one day. This flow scenario would use 39,000 af of water over base flow conditions. This alternative was eliminated because biologists believed that short duration pulses would not meet the need to adequately sustain upstream adult migration or reinitiate movement if fish stopped migration and began concentrating

AUG-21-2003(THU) 13:33 BUREAU OF RECLAMATION

(P) 530 275 2441

P. 002/017

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

within holding habitats. Public safety concerns associated with pulse flows also contributed to elimination of this alternative.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Reclamation has determined that Alternatives 1, 2, or 3 would have no impacts in the following resource areas: Jurisdictional waters (e.g., wetlands), riparian vegetation and floodplains, hazardous materials, air quality, the Wild and Scenic River Corridor, wildlife, and noise. Below is a summary (Table 1) of the primary impacts and benefits for all three alternatives; a more detailed analysis follows.

AUG-21-2003(THU)

13:33

BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.003.017

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

Table 1. – Summary of primary impacts and benefits for all alternatives.

| Resources Impacted/ Benefited | Alternative 1 No Action | Alternative 2 Hybrid Pulsed/Sustained Flow | Alternative 3 Action Plan Flows (Proposed) |
|--|---|--|---|
| Fisheries | Short & long-term potential negative impacts to Trinity River salmonids. No Impact to Central Valley species. | Short & long-term potential benefit to Trinity River salmonids. Increased potential for straying No Impact to Central Valley species. Short-term impacts to operation of fish counting and marking weirs. | Short & long-term potential benefit to Trinity River salmonids. No Impact to Central Valley species. Maintains better in-river conditions. Minimal short-term impacts to operation of fish counting and marking weirs. |
| Threatened, Endangered, and Sensitive Species | Potential negative impacts to Trinity River salmonids of concern. No impact to Central Valley listed species of concern. | Short & long-term potential benefit to Trinity River salmonids. No Impact to Central Valley listed species of concern. | Short & long-term potential benefit to Trinity River salmonids. Potential benefits to amphibians of concern. No Impact to Central Valley species |
| Hydrology | No impacts | Short-term erratic changes to current flow schedule Increased water use | Short-term mimic of storm hydrograph. Efficient use of water. |
| Socioeconomic | Increased potential impact to current and future fishing opportunities. No impacts to CVP interests | No short-term impacts to power production or water deliveries Potential benefits to present and future fishing opportunities. Long-term minimal impacts to CVP interests | No short-term no impacts to power production or water deliveries Potential benefits to present and future fishing opportunities. Long-term minimal impacts to CVP interests |
| Water Quality | No impacts | Short-term "relatively ephemeral" beneficial impacts from lower water temperatures. | Short-term "relatively longer" beneficial impacts from lower water temperatures. |

AUG-21-2003(THU) 13:34 BUREAU OF RECLAMATION

(FAX) 30 215 2441

P.004 017

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

Table 1. – Summary of primary impacts and benefits for all alternatives.

| Resources Impacted/Benefited | Alternative 1 No Action | Alternative 2 Hybrid Pulsed/Sustained Flow | Alternative 3 Action Plan Flows (Proposed) |
|------------------------------|---|--|--|
| Recreation and Public Safety | No impact | Short-term erratic benefits to white water boating. Short-term negative impacts to anglers, Tribal fisheries, and river dredging; some increased concern for public safety. | Relatively longer benefits to white water boating Short-term negative impacts to Tribal fisheries and river dredging; no impact to public safety. |
| Cultural Resources | No impact | No impact | No impact |
| Indian Trust Assets | Potential negative impacts aquatic and anadromous trust resources. No Impact to Central Valley Trust Assets. | Short & long-term potential benefit to Trinity River Trust Assets. No Impact to Central Valley Trust Assets. | Short & long-term potential benefit to Trinity River salmonids. No Impact to Central Valley Trust Assets. |

Fisheries

Alternative 1 - No Action Alternative

The No Action alternative would do nothing to proactively minimize the likelihood of a fish die-off in 2003. Currently, the lower Klamath River has generally similar conditions to those attributed to causing last year's die-off. A combination of relatively low instream flow and large escapement of fall run Chinook salmon increases the likelihood of adverse in-river conditions (e.g., warm water temperatures and high fish densities) that could result in increased disease outbreak. Under this alternative, there is no predetermined contingency to reduce the severity of a die-off if one were to occur.

Alternative 1 would minimize the risk of dewatering spring run Chinook salmon redds in the Upper Trinity River.

Alternative 2 - Hybrid Pulsed/Sustained Flow

This alternative would have beneficial impacts on in-river conditions that would decrease the likelihood of a fish die-off. Increased flows would lower water temperatures and would provide upstream migratory cues for adult pre-spawn salmon to reduce fish densities. Through a combination of these benefits, a reduction in disease rates and transmittal should be achieved.

AUG-21-2003 (THU) 13:34 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.005 01.

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

Alternative 2:

- Minimizes the risk of dewatering spring run Chinook salmon redds in the Upper Trinity River;
- Reduces potential pre-spawn adult crowding by initiating migration and increasing short-term wetted in-river habitat; and
- Decreases adult fish densities reducing the ability of water borne pathogens to spread.

Alternative 2, however, with its earlier timing and multiple peaks in flow, would be more likely to confuse migratory fish responses and to result in straying. In addition, multiple peaks in flow would be more detrimental to fish monitoring at the Junction City weir than Alternative 3's proposed flow schedule.

Alternative 3 - Action Plan Flows (Proposed)

Alternative 3:

- Minimizes the risk of dewatering spring run Chinook salmon redds in the Upper Trinity River;
- Reduces potential pre-spawn adult crowding by supplying conditions known to provide unimpaired upstream passage and increasing wetted in-river habitat; and
- Decreases adult fish densities reducing the ability of water borne pathogens to spread.

Alternative 3 would be implemented later, during the peak abundance of Trinity River hatchery fall run Chinook salmon entering the estuary (Figure 3). It is at this time when fish are at their highest in-river densities and therefore at greatest risk of physiological stress, and highest potential incidence of disease transmittal and outbreak. Providing flow during peak estuary abundance would initiate upstream adult migration and decrease in-river fish densities at the most critical time. The Proposed Action provides in-river conditions which are known to provide unimpaired upstream passage for adult fall run Chinook rather than just providing short-term migration cues. The consistent and decreasing flows proposed in Alternative 3 would also minimize fish counting weir disturbances compared to the multiple peaks called for in Alternative 2.

Finally, if required, the Proposed Action reserves approximately 17,000 af of water for an emergency response, to increase water volume turn-over to break the disease cycle, if this is required beyond the preventative flow recommendations.

Threatened, Endangered, and Sensitive Species

Alternative 1 - No Action Alternative

The No Action alternative would do nothing to proactively minimize the likelihood of a fish die-off in 2003. This could increase the potential for negative impacts to threatened Southern Oregon/Northern California Coast (SONCC) coho salmon, other salmonids (e.g., the Klamath Mountain Province summer-run steelhead which is listed by CDFG as a Species of Special Concern (SSC) and by the U.S. Forest Service (USFS) as a Sensitive

AUG-21-2003 (THU) 15:34 BUREAU OF RECLAMATION

(FAX) 530 415 2441

P.006 011

**Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA**

Species (SS), and the Klamath-Trinity population of spring-run Chinook salmon (CDFG: SSC and USFS: SS)), and native fish species (e.g., the Klamath River Lamprey (CDFG: SSC) of concern.

Currently, the lower Klamath River has generally similar conditions to those attributed to causing last year's die-off. A combination of relatively low instream flow and large escapement of fall run Chinook salmon increases the likelihood of adverse in-river conditions (e.g., warm water temperatures and high fish density) that would result in increased disease outbreak.

In the event of another fish die-off, short-term positive impacts to several raptor species of concern (e.g., bald eagle and osprey both CDFG:SSC) would be expected as dead fish would be abundantly available for food.

Alternative 2 - Hybrid Pulsed/Sustained Flow

In addition to general benefits that might occur for all fish species (Fisheries Section), additional inundated riverine habitat might augment short-term availability of food resources for rearing SONCC coho salmon. However, the relatively early timing of Alternative 2 could potentially cue Klamath River Chinook salmon stocks, which generally return earlier than Trinity River fish (Figure 3), to stray into the Trinity River and to spawn earlier.

Impacts to avian, wildlife, and riparian resources would more likely result from Alternative 2 due to unnaturally fluctuating river levels. For example, foothill yellow-legged frog tadpoles (CDFG: SSC and USFS: SS) could be washed from their holding areas with early releases before they have emerged as adult frogs.

Alternative 2 increased releases to the Trinity River of up to 50,000 af, as authorized by Judge Wanger, would have no impact to Central Valley Project (CVP) operations and water supply deliveries in 2003. Consequently, this action would have no effect on federally listed fishes within the Central Valley. Reclamation has negotiated an exchange agreement with the Metropolitan Water District (MWD) of Los Angeles such that Trinity Reservoir water used for the action will be exchanged for non-CVP water stored within Shasta Lake. This ensures normally scheduled CVP deliveries this year. Reduction in Trinity Reservoir CVP storage could potentially have a minor impact to future water supplies; however, current high carryover storage levels in northern CVP reservoirs indicate that winter 2003/2004 runoff will probably fill northern CVP reservoirs to their flood control limitations.

Alternative 3 - Action Plan Flows (Proposed)

In addition to general benefits that might occur for all fish species (Fisheries Section), Alternative 3 has been reviewed by National Oceanic and Atmospheric Administration (NOAA). Fisheries for potential affects to threatened SONCC coho salmon, their critical habitat, and Essential Fish Habitat for fish species federally managed under Pacific Salmon Fishery Management Plans (coho and Chinook salmon). This federal agency concurred that implementation of the Proposed Action would not be likely to adversely

AUG-21-2003 (THU) 13:34 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.007 017

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

affect threatened SONCC coho salmon, or designated SONCC coho salmon critical habitat. The Proposed Action might increase the success of rearing coho salmon by inundating additional habitat, thereby providing increased feeding opportunities and decreasing the possibility of density-dependent adverse impacts.

Impacts to avian, wildlife, and riparian resources would be negligible due to the gradual ramp down from 1,650 cfs to 1,000 cfs between August 26 and September 15 and the rapid return to summer base flows of 450 cfs by September 17. Foothill yellow-legged frog tadpoles (CDFG: SSC and USFS: SS) would likely benefit by holding off until late August to allow final stages of metamorphosis of tadpoles and by addition of supplementary water into pools that are currently drying up; although some tadpoles might be washed away. Current egg mass mortality is approximately 20 percent to date.

Proposed Action releases to the Trinity River of up to 50,000 af, as authorized by Judge Wanger, would have no impact to Central Valley Project (CVP) operations and water supply deliveries in 2003. Consequently, this action would have no effect on federally listed fishes within the Central Valley. Reclamation has negotiated an exchange agreement with the Metropolitan Water District (MWD) of Los Angeles such that Trinity Reservoir water used for the action will be exchanged for non-CVP water stored within Shasta Lake. This ensures normally scheduled CVP deliveries this year. Reduction in Trinity Reservoir CVP storage could potentially have a minor impact to future water supplies; however, current high carryover storage levels in northern CVP reservoirs indicate that winter 2003/2004 runoff will probably fill northern CVP reservoirs to their flood control limitations.

Hydrology

Alternative 1 - No Action Alternative

No impacts to current flow schedule.

Alternative 2 - Hybrid Pulsed/Sustained Flow

This alternative is more water conservative than an increased baseflow/sustained flow option of similar magnitude. For example, if the first two pulse flows are successful in their effectiveness to reduce adverse in-river conditions and initiate upstream adult salmon migration, then the pulse flows will continue and only 34,805 af of water would be used over baseflow volume. The drawback is that if the first two pulse flows are not successful, then the sustained release is implemented, which requires 59,096 af of water above base flow volume. In this event, there could be insufficient water available to implement any emergency response flow release.

Alternative 2:

- Increases flows in the lower Klamath River above levels observed during the 2002 fish die-off; and
- Adheres to ramping rates from Lewiston dam that comply with criteria established in the EIS/EIR.

AUG-21-2003(THU) 13:35 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.008 UL

**Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA**

Alternative 2, however, would implement an erratic hydrograph that is not within the recorded range of Trinity River hydrology. What is more, Alternative 2 would demand more water from Trinity Reservoir, and would increase economic impacts to flat water recreation earlier in the season (before Labor Day) than the Proposed Action.

Alternative 3 - Action Plan Flows (Proposed)

Alternative 3:

- Increases flows in the lower Klamath River above levels observed during the 2002 fish die-off; and
- Adheres to ramping rates from Lewiston dam that comply with criteria established in the EIS/EIR.

The Proposed Action, employs the most water conservative approach to addressing adverse in-river conditions in the lower Klamath River. The preventative release would utilize a total of 33,000 af of water over the baseflow volume. This would leave approximately 17,000 af of water available to initiate the emergency response flow.

The Proposed Action would minimize erratic impacts to Trinity River flows and would occur late enough in the summer (after Labor Day) so that economic impacts to flat water recreation would be minimized. Though late-summer storms that cause such flow increases as those proposed are rare, the hydrograph for this alternative lies within the natural range of the historic unimpaired hydrology for the Trinity River system (USFWS and Hoopa Valley Tribe 1999).

Socioeconomic

Alternative 1 - No Action

Under the No Action Alternative there would be no direct socioeconomic effects in 2003. However, under any alternative, if a fish die-off in the lower Klamath River were to occur, the long term economic effects could be substantial to Tribal, commercial and sport fish industries.

Under the No Action Alternative, there would be no changes in water delivery to the CVP. Therefore there would be no adverse socioeconomic effects to Central Valley Project power generation or water deliveries.

***Alternative 2 - Hybrid Pulsed/Sustained Flow and
Alternative 3 - Action Plan Flows (Proposed)***

The proposed Lewiston Dam releases to the Trinity River, under both action alternatives, would not effect the forecasted diversions from the Trinity River basin to the Sacramento River basin. Diversions would fluctuate as weather conditions dictate, but releases in excess of powerplant capacity would not be expected to occur at Trinity, J.F. Carr, and Spring Creek Powerplants. An additional release volume from Trinity Powerplant would

AUG-21-2003 (THU) 15:55 BUREAU OF RECLAMATION

(FAX) 530 215 2441

P.009 011

**Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA**

be needed in order to support the corresponding flow increase to the Trinity River below Lewiston Dam.

Alternatives 2 and 3 increased releases to the Trinity River of up to 50,000 af, as authorized by Judge Wanger, would have no impact to Central Valley Project (CVP) operations and water supply deliveries in 2003. Reclamation has negotiated an exchange agreement with the Metropolitan Water District (MWD) of Los Angeles such that Trinity Reservoir water used for the action will be exchanged for non-CVP water stored within Shasta Lake. This ensures normally scheduled CVP deliveries this year. Reduction in Trinity Reservoir CVP storage could potentially have a minor impact to future water supplies; however, current high carryover storage levels in northern CVP reservoirs indicate that winter 2003/2004 runoff will probably fill northern CVP reservoirs to their flood control limitations.

Water Quality

Alternative 1 - No Action

No impacts to water quality.

Alternative 2 - Hybrid Pulsed/Sustained Flow

This alternative would reduce water temperatures in the Trinity River and lower Klamath River; however, due to the short duration of the pulses (Figure 2), it is expected that decreases in water temperatures would be ephemeral unless the sustained release portion of Alternative 2 was enacted.

With implementation of Alternative 2, increased turbidity might be seen on the rising limb of each pulse.

Alternative 3 - Action Plan Flows (Proposed)

Temperature models indicate that the Proposed Action would reduce water temperatures as far downstream as the lower Klamath River. Decreases in water temperatures would vary according to ambient air temperatures, but on average the lower Klamath River could experience a decrease in water temperature of about 1 degree centigrade.

Recreation and Public Safety

Alternative 1 - No Action Alternative

Implementation of the No Action Alternative would not impact recreational use or create concerns for public safety on the Trinity Reservoir or Trinity River.

AUG-21-2003 (THU) 13:35 BUREAU OF RECLAMATION

(FAX) 930 215 2441

P.010.017

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

***Alternative 2 - Hybrid Pulsed/Sustained Flow and
Alternative 3 - Action Plan Flows (Proposed)***

Alternatives 2 and 3 would have similar impacts to recreational use of the Trinity Reservoir and Trinity River. Trinity Reservoir has a maximum storage capacity of approximately 2.4 million acre-feet (maf). Current storage in Trinity Reservoir is approximately 2.2 maf, which is 92% of capacity and 125% of the 15-year average for this time of year. The most recent operations forecast, which includes Lewiston Dam releases to the Trinity River of 450 cfs, projects Trinity Reservoir storage to fall to 1.9 maf (elevation 2334 ft) by the end of September, which is 127% of the 15-year average for the end of a water year. An additional 33,000 af release would reduce the Trinity Reservoir storage by two feet (elevation 2,332 ft) by the end of September, whereas an additional 50,000 release would reduce the Trinity Reservoir storage by three feet (elevation 2,331 ft) by the end of September.

These reductions in water level would reduce the total surface area available for boating and other recreational surface activities. However, the decrease in usable surface area would unlikely be noticed by the average user and lake level would still be higher than last year. This lowering in the reservoir level is not likely to degrade aesthetic values associated with recreational use. In addition, most water used by these alternatives would be released after Labor Day, the last major weekend of the summer season, and would minimize both recreational and economic impacts.

Increased flows on the Trinity River from Alternative 2 would likely have some short-term and minor negative impacts to recreational anglers (e.g., fluctuating flows strand or float unaware fishermen), tribal fishery activities (e.g., ability of tribal members to manually fish river deployed nets), and river dredge activities (e.g., high-flow related removal of anchoring). However, concerns have been raised with the multiple pulses associated with Alternative 2 because its erratic flow changes (from multiple 2,000 cfs pulses; Figure 2) may adversely impact public safety.

Increased flows from the Proposed Action would likely have similar short-term negative impacts to tribal fishery activities and river dredge activities as in Alternative 2, however, these impacts are expected to be reduced as multiple peaks are not proposed. In comparison, the gradual ramp down of Alternative 3 would be less disruptive to angling activities compared to repeated pulse flows. What is more, white water boating activities, which are a major use of the river this time of year, would benefit more from the Proposed Action than either of the other alternatives.

Cultural Resources

Implementation of the Proposed Action would have no impacts on cultural resources (historic properties) within the project area, which includes the shoreline of Trinity Reservoir and banks of the Trinity River.

It is estimated that release of approximately 50,000 af of water from Trinity Reservoir will lower lake levels approximately 2 to 3 ft. This decrease in water level, compared to the No Action Alternative, could result in the increased exposure of cultural resources

AUG-21-2003(THU) 13:35 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P. 011 017

**Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA**

within the reservoir's inundation zone. However, the current storage and elevation of Trinity Reservoir, as of August 12, 2003, is greater than the same period time last year, and the changes anticipated (with a 2-3 ft drawdown) are within the range of existing drawdowns. Therefore, reservoir drawdown resulting from implementation of this action would not change effects on cultural resources.

Previously conducted record searches indicate the presence of historic and prehistoric cultural resource sites primarily on the river terraces of the Trinity. However, the EIS/EIR states that it is unlikely that even 30,000 cfs peak flows would have major impacts on cultural resources given that prior to the construction of the dam, historic peaks were 70,000 cfs or greater and that the remaining cultural resources are well above the floodplain. Because the instantaneous maximum flow of Proposed alternative is 1,650 cfs, and is constrained to the existing flood plain, cultural resources along the river would not be affected.

A Programmatic Agreement (PA) between the Hoopa Valley Tribe, Fish and Wildlife Service, Reclamation, Bureau of Land Management, State Historic Preservation Officer and the Advisory Council for Historic Preservation for compliance with Section 106 of the National Historic Preservation Act is in place for the Trinity River Mainstem Fishery Restoration Project. As required by the PA, the actions provided for in the Cultural Resources Management Plan will be followed for the Proposed Alternative.

Indian Trust Assets

Though protective of terrestrial Tribal Trust Assets, the No Action Alternative would probably not be protective of aquatic Tribal trust resources (e.g., Trinity River salmonids, sturgeon, and lamprey). Alternatives 2 and 3, however, would likely benefit Trinity River fishes and would have no negative impacts on other Indian Trust Assets (e.g., willow shoots, blackberries, bears, waterfowl, etc.).

Other Potential Areas of Impact

Hydrographs for Alternatives 2 and 3 are conservative of, and would not have any impacts on, the Hoopa Valley Tribe's White Deerskin Boat Dance Ceremony which is held during this time period.

OTHER IMPACTS AND COMMITMENTS

Cumulative Impacts

Cumulative impacts are defined as impacts on the environment, resulting from incremental impact of the action when added to other past, present, or reasonably foreseeable future actions. The National Environmental Policy Act (NEPA) requires an assessment of potential cumulative impacts as a result of any proposed action with regard to other past, present, and reasonably foreseeable projects.

Restoration of the Trinity River basin, between Lewiston Dam and the confluence with the Klamath River, is mandated in the Trinity River Basin Fish and Wildlife Management

AUG-21-2003(180) 13:35 BUREAU OF RECLAMATION

(FAX) 930 473 2441

P. 012.011

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

Act (P.L. 98-541) and the Central Valley Project Improvement Act (P.L. 102-575).
Restoration actions are described in the EIS/EIR and its associated Record of Decision
(ROD).

While the existing ROD was found to be unlawful due to NEPA procedural inadequacies,
as a result of the litigation in *San Luis & Delta Mendota Water Authority, et al. v. Norton*,
the Court stated that non-flow actions associated with the Mainstem Trinity River Fishery
Restoration Program should proceed, pending the outcome of supplemental
environmental documentation and a subsequent ROD. The basic science and
environmental analyses associated with restoration activities are still considered valid.

The existing ROD mandates that the following actions be achieved to restore the Trinity
River's anadromous fishery and its associated habitat:

- Implement a variable flow regime
- Construct 44 mechanical channel rehabilitation sites
- Conduct sediment management projects including addition of
spawning and geomorphic gravels
- Engage in watershed restoration activities to reduce fine sediment inputs to the
mainstem
- Implement infrastructure improvements to accommodate flow changes
- Establish an adaptive environmental assessment and management program

Reclamation is proceeding with implementation of the existing ROD, with the exception
of the variable flow regime, which has been capped by court order at the dry year water
volume.

Implementing the Proposed Action would not have any adverse cumulative effects on the
Trinity River or its fishery and wildlife resources. Furthermore, in combination with
ongoing restoration projects, the Proposed Action should enhance in-river conditions for
the short-term and long-term benefit of anadromous fish populations, riparian vegetation
diversity, and associated populations of native wildlife.

Growth Inducing Impacts

Implementation of the Proposed Action would not create any jobs or require additional
housing, consequently, no growth inducing impacts would occur. The action is being
conducted solely for the benefit of populations of anadromous fish and is a one time
event conducted over a three week period.

Environmental Justice

Implementation of the Proposed Action would not result in a change to land use or
influence existing social and economic characteristics within the region. Therefore, no
minority, low-income populations, or communities would be disproportionately affected.

AUG-21-2003(THU) 15:36 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P. 013 011

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

REFERENCES

- California Department of Fish and Game (CDFG). 2003. September 2002 Klamath River Fish Kill: Preliminary Analysis of Contributing Factors. Northern California-North Coast Region, Redding, California. 63 pp. DRAFT Report.
- P.L. 84-386. Trinity River Division, Central Valley Project, August 12, 1955.
- P.L. 98-541 Trinity River Basin Fish and Wildlife Act. 1984.
- P.L. 102-575 Central Valley Project Improvement Act. 1992.
- Trinity River Restoration Program. 2003a. DRAFT Implementation Strategy, Potential 2003 Fall Flow Releases. Memo to Trinity Management Council submitted June 26, 2003. 6 pp.
- Trinity River Restoration Program. 2003b. An Action Plan to Minimize Risk of Die-Off of Trinity River Fall Run Chinook Salmon in 2003. Report submitted to Bureau of Reclamation, Mid-Pacific Region, August 6, 2003. 13 pp.
- U.S. Department of the Interior. 2003. Recommendations for Averting Another Adult Salmonid Die-off. Report submitted to U.S. District Court, Eastern District of California on 18 March 2003.
- U.S. District Court, Eastern District of California. 2003a. Transcript of Telephonic Hearing re: Additional Submissions, CIV-F-00-7124 OWW. Dated 5 March 2003.
- U.S. District Court, Eastern District of California. 2003b. Memorandum Decision and Order Re: Federal Defendant's Motion to Modify Injunction Re: Supplemental EIS; Defendant Hoopa Valley Tribe' Motion for Partial Stay Pending Appeal and for Modification of Injunctive Relief. Dated 4 April 2003. Issued by Oliver W. Wanger, United States District Judge.
- U.S. Fish and Wildlife Service (USFWS), Arcata Field Office. 2003. Notification of Trinity River Adaptive Management Working Group Special Meeting July 29, 2003. Public Service Announcement submitted to the Trinity Journal, Sacramento Bee, Redding Record Searchlight, Eureka Times Standard, and others July 19, 2003.
- U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, Hoopa Valley Tribe, and Trinity County. 2000. Trinity River Mainstem Fishery Restoration Environmental Impact Statement/Environmental Impact Report (EIS/EIR).
- U.S. Fish & Wildlife Service, Hoopa Valley Tribe. 1999. Trinity River Flow Evaluation Final Report. Report submitted to the Secretary, Department of the Interior. 308 pp.

AUG-21-2005(THU) 15:30 BUREAU OF RECLAMATION

(FAX) 330 470 4441

P.014.017

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

LIST OF PREPARERS

Trinity River Restoration Program (TRRP) staff

Daryl Peterson, Technical Modeling and Assessment Group: Branch Chief & Team Leader
Bob Sullivan, Wildlife Biologist
Andreas Krause, Physical Scientist
Glenn Yoshioka, Fishery Biologist
Brandt Gutermuth, Environmental Specialist

Other U.S. Bureau of Reclamation employees

Jim DeStaso, Fishery Biologist, Northern California Area Office
Tom Patton, Hydraulic Engineer, Central Valley Operations
Jim West, Archaeologist, Mid-Pacific Region

AUG-21-2003(THU) 15:36 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P. 013 01.

Late-Summer 2003 Preventative Trinity River Flow Releases
for Protection of Fall Run Chinook Salmon: EA

LIST OF AGENCIES AND PERSONS CONSULTED

In addition to working with members of the TAMWC and the TMC (Public Involvement Section), Table 2 provides a list of the personnel who provided input to the program.

Table 2. July 23, 2003 list of organizations and individuals that attended various meetings to develop or evaluate recommendations for the fall flow schedule and recommended action.

| ORGANIZATION | NAME |
|---|--|
| California Department of Fish and Game | Wade Sinnen Associate Biologist (Marine Fisheries) |
| California Department of Water Resources | Curtis Anderson Civil Engineer |
| Hoopa Valley Tribe: Fisheries | Robert Franklin Senior Hydrologist |
| National Oceanic and Atmospheric Administration: Fisheries | Mike Kelly Fisheries Biologist |
| Trinity County Natural Resources Department | Tom Stokely Senior Environmental Planner |
| U.S. Forest Service, Shasta-Trinity National Forest Trinity River Management Unit | Loren Everest Fisheries Biologist |
| U.S. Forest Service, Six Rivers National Forest, Lower Trinity River Ranger District | Anita Andazola Fisheries Biologist |
| U.S. Fish and Wildlife Service | Charlie Chamberlain Supervisory Fisheries Biologist |
| U.S. Fish and Wildlife Service | Scott Foott Fisheries Biologist (Pathology) |
| Water Quality Control Board: North Coast Region | Dave Hope Environmental Scientist |
| Yurok Tribe | Dave Hillemeier Fisheries Program Manager |
| Yurok Tribe | Tim Hayden Senior Fisheries Biologist |

EXHIBIT 2

AUG-21-2003(THU) 13:09 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.002/002

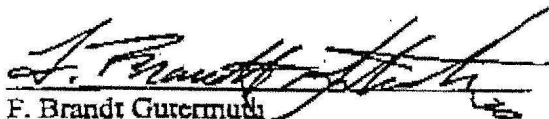
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATIONMID-PACIFIC REGION
NORTHERN CALIFORNIA AREA OFFICE
TRINITY RIVER RESTORATION PROGRAM
WEAVERVILLE, CALIFORNIA

FINDING OF NO SIGNIFICANT IMPACT

It is my finding that implementation of the Preferred Alternative does not constitute a major Federal action significantly affecting the quality of the human environment. As such, an Environmental Impact Statement is not required. An Environmental Assessment has been prepared in support of this finding and is available upon request at the Trinity River Restoration Program office identified above.

Reference: Late-Summer 2003 Preventative Trinity River Flow Releases for
Protection of Fall Run Chinook Salmon Environmental Assessment

Environmental review by:

F. Brandt Guremuth
Environmental Specialist, Trinity River Restoration ProgramAugust 21, 2003

Date

Recommended by:

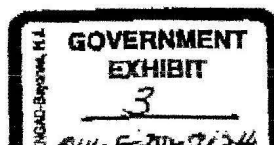
Douglas P. Schleusner
Executive Director, Trinity River Restoration Program8/21/03

Date

Approved by:

Michael J. Ryan
Manager, Northern California Area OfficeAUGUST 21, 2003

Date

FONSI No. TR0203

AUG-21-2003(THU) 13:27 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.002-015

FINDING OF NO SIGNIFICANT IMPACT**LATE-SUMMER 2003 PREVENTATIVE TRINITY RIVER FLOW RELEASES
FOR PROTECTION OF FALL RUN CHINOOK SALMON****Lead Agency:**

U.S. Bureau of Reclamation
Trinity River Restoration Program
P.O. Box 1300
1313 South Main Street
Weaverville, CA 96093
Phone: 530-623-1800
Fax: 530-623-5944
Email: DSCHLEUSNER@mp.usbr.gov

BACKGROUND

In September, 2002, a substantial portion of the returning Trinity River fall run Chinook salmon died during a large-scale die-off in the lower Klamath River. Federal and State biologists studying the die-off concluded that: (1) aquatic pathogens were the primary causes of death to fish; (2) warm water temperatures, low water velocities, high fish density, and long fish residence times likely contributed to the disease outbreak; (3) water temperatures, river stage, and channel geometry probably interacted to stall adult salmon migration; and (4) events of 2002 demonstrate that a major fish die-off can occur during low flow conditions.

In response to this fish die-off, the U.S. Department of the Interior (USDO) submitted a report to Judge Oliver Wanger, U.S. District Court, on March 18, 2003, entitled *Recommendations for Averting Another Adult Salmonid Die-Off (March 18th Plan; USDO 2003)*, to justify additional water allocation to the Trinity River in fall 2003. Subsequently, on April 4, 2003, Judge Wanger issued a court ruling allowing the Bureau of Reclamation (Reclamation) to use an additional 50,000 acre-feet (af) of water from the Trinity River Division of the Central Valley Project "at its reasonable discretion" to prevent a recurrence of the September 2002 fish die-off on the lower Klamath River.

The Trinity River Restoration Program revised the *March 18th Plan*, based on additional scientific information from an interdisciplinary team and stakeholder input. The revised plan, entitled *An Action Plan to Minimize Risk of Die-Off of Trinity River Fall Run Chinook Salmon in 2003 (Action Plan, August 6, 2003)* is endorsed by the Trinity Adaptive Management Working Group (TAMWG) and the Trinity Management Council (TMC).

The need for implementing the preferred action is both biological and legal in nature. In 2002, low flow conditions in the lower Klamath River, warm water temperatures, and an above average fall run Chinook salmon escapement combined to create conditions

AUG-21-2003(THU) 13:27 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.003 015

favorable to an epizootic outbreak resulting in a fish die-off. The biological consequences of a die-off in two consecutive years would substantially impact present efforts to restore the native Trinity River anadromous fish community and fishery. Reductions in the Trinity River fish population can affect Tribal fishery harvest opportunities, ocean harvest levels, recreational fishing, as well as public perception and recovery mandates. Last year's loss of 3 year-old and a potential loss of 4 year-old fish from the 1999 brood year affect the population structure, and may impede recovery goals authorized by the Trinity River Division Central Valley Project Act of 1955 (P.L. 84-386), the Trinity River Basin Fish and Wildlife Act of 1984 (P.L. 98-541), and the Central Valley Project Improvement Act of 1992 (P.L. 102-575), for naturally produced fall run Chinook salmon.

ALTERNATIVES

Alternative 1 - No Action Alternative

Under this alternative, releases from Lewiston Dam would remain at 450 cubic feet per second (cfs) summer base flow conditions. Summer base flows generally occur between June and early October. In odd numbered years, Reclamation increases Lewiston Dam releases above 450 cfs to provide water for the Hoopa Valley Tribe's White Deerskin Boat Dance Ceremony (Ceremony). This year, the Ceremony will require Lewiston Dam releases to be ramped up from 450 cfs on August 24, flows will peak at 1,650 cfs on August 25. Without implementation, of either Alternative 2 or 3, flows would be ramped down to 450 on August 26.

Alternative 2 - Hybrid Pulsed/Sustained Flow

This alternative (with 2 options) was proposed in the March 18th Plan and recommends implementing a minimum of two 2,000 cfs pulse flow releases from Lewiston Dam. Flows for each pulse would be increased from 450 to 2,000 cfs over a 24 hour period, held at 2,000 cfs for two days, and ramped down to 450 cfs over a 24 hour period. The first two pulses would occur between August 17 and 29. In the first option, 3 additional pulse flows of 2,000 cfs would follow and occur in September. Combined, the 5 pulse flows would require 34,805 af of water over baseflow volume. Biologists would conduct real-time monitoring to assess how successful these pulses were at dispersing fish and initiating upstream migration.

If the first two pulse flows were shown to be ineffective at dispersing fish and initiating adult migration, biologists would then initiate the second option. The second option recommends a sustained release of 1,500 cfs, between September 1 and September 17. This option would require 59,096 af over baseflow volume.

Alternative 3 - Action Plan Flows (Preferred)

The preventive flow release would be implemented on August 27, immediately following peak flow releases for the Ceremony. After the Ceremony peak flow of 1,650 cfs, a

AUG-21-2003(THU) 13:27 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.004 015

gradual ramp down would begin, reaching 1,000 cfs on September 15. A return to the summer base flow of 450 cfs would be completed on September 17. A total of 33,000 af of water would be used for this alternative. If triggered, the emergency flow release would involve a 5-day release of 2,000 cfs from Lewiston Dam for an estimated total volume of 17,000 af above baseflow volume. Combined, the preventive and emergency flow response would not exceed the 50,000 af allocation dictated by the court ruling.

The *Action Plan* contains triggers for separately initiating the preventive and emergency response flow releases. Triggers for initiating the preventive flow release have been met as of August 20, 2003, including: (1) a fall run Chinook salmon population size estimate of greater than 110,000 for the Klamath Basin, and (2) a flow of less than 3,000 cfs in the lower Klamath River. The triggers for initiating the emergency response flow release would be an estimated doubling in less than 7 days of either the incidence (proportion of fish infected) or severity (number of parasites per gill) of Ich. Evaluation of these triggers would be based on real-time monitoring of disease incidence to be conducted in the lower Klamath River in the geographic locations of the die-off that occurred in 2002.

Alternatives Considered But Eliminated from Further Consideration

Two alternatives from the March 18th plan were also considered but eliminated for the following reasons:

Sustained Flow

This alternative would increase flows from 450 cfs on August 14, flows would be held at 1,500 cfs from August 15 through September 15, and ramp down to 450 cfs on September 18. This flow scenario would use 69,200 af of water over base flow conditions and have the largest effect on lowering the temperature of Klamath River water. However, this alternative was eliminated because the volume of water exceeded that made available for this action in the Court's ruling, and because the Sustained Flow water release would represent an unnaturally high and consistent baseflow for the late-summer season.

Pulsed Flow

This alternative recommends use of four pulse flows occurring between August 17 and September 12. The first two pulses would ramp up rapidly from 450 cfs to 2,000 cfs, flows held at 2,000 cfs for two days, and ramp down to 450 cfs. The second two pulse flows would be identical to the first except that peak flows of 2,000 cfs would only be held for one day. This flow scenario would use 39,000 af of water over base flow conditions. This alternative was eliminated because biologists believed that short duration pulses would not be adequate to sustain upstream adult migration or reinitiate movement if fish stopped migration and began stacking up within holding habitats. Public safety concerns associated with pulse flows also contributed to elimination of this alternative.

AUG-21-2003 (THU) 13:27 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.005/015

FINDINGS

In accordance with the National Environmental Policy Act of 1969, as amended, Reclamation has found that an Environmental Impact Statement is not required for Reclamation to implement the Preferred Alternative of increasing Trinity River flows to reduce the likelihood, and potentially reduce the severity, of a fish die-off occurring in 2003.

As determined in the attached Environmental Assessment, Reclamation did not identify any significant impacts which will result from the preferred action. The Preferred Alternative is identified as the superior biological alternative providing in-river conditions most likely to reduce the probability, and potentially reduce the severity, of a fish die-off occurring in 2003.

Implementation of Alternative 3, the Action Plan Flows, is the Preferred Alternative. Reclamation's finding of no significant impacts is based upon the following interpretation of Preferred Alternative Impacts:

Fisheries

- Minimizes the risk of dewatering spring run Chinook salmon redds in the Upper Trinity River;
- Reduces potential pre-spawn adult crowding by supplying conditions known to provide unimpaired upstream passage and increasing wetted in-river habitat; and
- Decreases adult fish densities reducing the ability of water borne pathogens to spread.

The Preferred Alternative would be implemented later, during the peak abundance of Trinity River hatchery fall run Chinook salmon entering the estuary. It is at this time when fish are at their highest in-river densities and therefore at greatest risk of physiological stress, and highest potential incidence of disease transmittal and outbreak. Providing flow during peak estuary abundance would initiate upstream adult migration and decrease in-river fish densities at the most critical time. The Preferred Alternative provides in-river conditions which are known to provide unimpaired upstream passage for adult fall run Chinook rather than just providing short-term migration cues. The consistent and decreasing flows in the Preferred Action would also minimize fish counting weir disturbances compared to the multiple peaks called for in Alternative 2.

If required, the Preferred Alternative reserves approximately 17,000 af of water for an emergency response, to increase water volume turn-over to break the disease cycle, if this is required beyond the preventative flow recommendations.

Threatened, Endangered, and Sensitive Species

The Preferred Alternative has been reviewed by National Oceanic and Atmospheric Administration (NOAA), Fisheries for potential affects to threatened SONCC coho

AUG-21-2003(THU) 13:28 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.006.015

salmon, their critical habitat, and Essential Fish Habitat for fish species federally managed under Pacific Salmon Fishery Management Plans (coho and Chinook salmon). This federal agency concurred that implementation of the Preferred Alternative would not be likely to adversely affect threatened SONCC coho salmon, or designated SONCC coho salmon critical habitat. The Preferred Alternative might increase the success of rearing coho salmon by inundating additional habitat, thereby providing increased feeding opportunities and decreasing the possibility of density-dependent adverse impacts.

Preferred Alternative releases to the Trinity River of up to 50,000 af, as authorized by Judge Wanger, would have no impact to Central Valley Project (CVP) operations and water supply deliveries in 2003. Consequently, this action would have no effect on federally listed fishes within the Central Valley. Reclamation has negotiated an exchange agreement with the Metropolitan Water District (MWD) of Los Angeles such that Trinity Reservoir water used for the action will be exchanged for non-CVP water stored within Shasta Lake. This ensures normally scheduled CVP deliveries this year. Reduction in Trinity Reservoir CVP storage could potentially have a minor impact to future water supplies; however, current high carryover storage levels in northern CVP reservoirs indicate that winter 2003/2004 runoff will probably fill northern CVP reservoirs to their flood control limitations.

Hydrology

- Increases flows in the lower Klamath River above levels observed during the 2002 fish die-off; and
- Adheres to ramping rates from Lewiston dam that comply with criteria established in the EIS/ETR.

The Preferred Alternative employs the most water conservative approach to addressing adverse in-river conditions in the lower Klamath River. The preventative release would utilize a total of 33,000 af of water over the baseflow volume. This would leave approximately 17,000 af of water available to initiate the emergency response flow.

The Preferred Alternative would minimize erratic impacts to Trinity River flows and would occur late enough in the summer (after Labor Day) so that economic impacts to flat water recreation would be minimized. Though late-summer storms that cause such flow increases as those proposed are rare, the hydrograph for this alternative lies within the natural range of the historic unimpaired hydrology for the Trinity River system.

Socioeconomic

The Preferred Alternative would not effect the forecasted diversions from the Trinity River basin to the Sacramento River basin. Diversions would fluctuate as weather conditions dictate, but releases in excess of powerplant capacity would not be expected to occur at Trinity, J.F. Carr, and Spring Creek Powerplants. An additional release volume

AUG-21-2003(THU) 13:28 BUREAU OF RECLAMATION

(FAX) 530 275 2441

P.007 015

from Trinity Powerplant would be needed in order to support the corresponding flow increase to the Trinity River below Lewiston Dam.

The Preferred Alternative would substantially decrease the potential for a fish die-off. Consequently, no impacts to the fishing industry would occur.

Water Quality

Temperature models indicate that the Preferred Alternative would reduce water temperatures as far downstream as the lower Klamath River. Decreases in water temperatures would vary according to ambient air temperatures, but on average the lower Klamath River could experience a decrease in water temperature of about 1 degree centigrade.

Recreation and Public Safety

Current storage in Trinity Reservoir is approximately 2.2 maf, which is 92% of capacity and 125% of the 15-year average for this time of year. The most recent operations forecast, which includes Lewiston Dam releases to the Trinity River of 450 cfs, projects Trinity Reservoir storage to fall to 1.9 maf (elevation 2334 ft) by the end of September, which is 127% of the 15-year average for the end of a water year. An additional 33,000 af release would reduce the Trinity Reservoir storage by two feet (elevation 2,332 ft) by the end of September, whereas an additional 50,000 release would reduce the Trinity Reservoir storage by three feet (elevation 2,331 ft) by the end of September.

These reductions in water level would reduce the total surface area available for boating and other recreational surface activities. However, the decrease in usable surface area would unlikely be noticed by the average user and lake level would still be higher than last year. This lowering in the reservoir level is not likely to degrade aesthetic values associated with recreational use. In addition, most water used by these alternatives would be released after Labor Day, the last major weekend of the summer season, and would minimize both recreational and economic impacts.

Increased flows from the Preferred Alternative would likely have minor short-term negative impacts to Tribal fishery activities and river dredge activities. These impacts are expected to be minimized due to the gradual ramp down of flows. This gradual ramp down would also be less disruptive to angling activities compared to repeated pulse flows. What is more, white water boating activities, which are a major use of the river this time of year, would benefit more from the Preferred Alternative than either of the other alternatives.

Cultural Resources

Implementation of Alternatives 1, 2 or 3 would have no impacts on cultural resources (historic properties) within the project area, which includes the shoreline of Trinity Reservoir and banks of the Trinity River.

Indian Trust Assets

The Preferred Alternative would likely benefit Trinity River fishes and would have no negative impacts on other Indian Trust Assets (e.g., willow shoots, blackberries, bears, waterfowl, etc.).

CONCLUSION

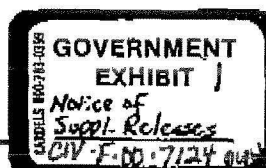
Based on analyses presented in the attached EA, and the ability to meet the Purpose and Need, Alternative 3 was chosen as the Preferred Alternative. Determination was made based on beneficial impacts to populations of anadromous fish, as well as negligible impacts to other associated natural resources.

EXHIBIT 3

**FINDING OF NO SIGNIFICANT IMPACT/
ENVIRONMENTAL ASSESSMENT**

**PURCHASE OF WATER FROM THE
SACRAMENTO RIVER WATER CONTRACTORS
ASSOCIATION AND SUPPLEMENTAL FALL 2004
RELEASES TO THE TRINITY RIVER**

AUGUST 2004



FINDING OF NO SIGNIFICANT IMPACT

PURCHASE OF WATER FROM THE SACRAMENTO RIVER WATER CONTRACTORS ASSOCIATION AND SUPPLEMENTAL FALL 2004 RELEASES TO THE TRINITY RIVER

INTRODUCTION

The Department of the Interior, through the Bureau of Reclamation, proposes to release approximately 36,300 acre-feet (af) of water from the Trinity River Division (TRD) of the Central Valley Project (CVP) for the benefit of Trinity River fall-run Chinook salmon. The Department is undertaking this action through Reclamation out of its commitment to restore the Trinity River fishery, but also believes this action will provide benefits to fish stocks in the Lower Klamath River.

While there is still no final determination of the specific cause of the 2002 fish die-off, the Department is extremely concerned about maintaining healthy Trinity River fish stocks while the fish migrate through the Lower Klamath River. We believe that proactively releasing water from the TRD prior to an actual die-off is an appropriate exercise of our discretion. This would be done in accordance with certain biological criteria developed by the U.S. Fish and Wildlife Service (Service), with input from the Trinity Management Council (TMC) and the National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries), which anticipate when river conditions are such that a die-off could occur.

BACKGROUND

In September 2002, a substantial portion of returning Trinity River fall-run Chinook salmon died during a large-scale die-off in the Lower Klamath River. In response to this fish die-off and because the TRD releases were enjoined pursuant to court order, the Department submitted a report to Judge Oliver Wanger, U.S. District Court, Eastern District of California, on March 18, 2003, entitled *Recommendations for Averting Another Adult Salmonid Die-Off*, to justify additional late season water allocation to the Trinity River. Subsequently, on April 4, 2003, Judge Wanger issued a court ruling allowing Reclamation to use an additional 50,000 af of water from the TRD "at its reasonable discretion" to prevent a recurrence of the September 2002 fish die-off in the Lower Klamath River. Reclamation acquired 46,300 af from the Metropolitan Water District (MWD) in 2003 and used nearly 33,000 af for supplement releases in 2003.

The 2003 supplemental releases were intended as a one-time event, but discussions with the Service and NOAA Fisheries have informed Reclamation that supplemental releases may be needed to protect salmonids in the Lower Klamath River in August and September. Consequently, the Department, working through Reclamation, proposes to make greater releases in August and September than were planned in the release schedule developed in the spring of 2004.

The water that Reclamation has identified as being available for use in the proposed fall release is comprised of the following: (1) 11,313 af of unreleased water carried over from the 2003 arrangement with MWD that was authorized by Judge Wanger for fall release in 2003 and (2) 25,000 af of water that will be acquired from willing sellers in the CVP. Reclamation's statutory authority to purchase the water is 3406 (b)(3) of the Central Valley Project Improvement Act and 16 U.S.C. § 742f. Both authorities are available for use by Reclamation. However, because 16 U.S.C. § 742f is non-reimbursable, it is anticipated that Reclamation will rely on that authority, via a delegation from the Secretary.

There is the potential that additional water for release may be made available, depending on when the decision of the Ninth Circuit Court in *Westlands v. Department of the Interior* becomes effective. The amount of this potential water is 24,300 af, and reflects the difference between a "wet" water year, which is the proper 2004 water year classification on the Trinity River, and a "normal" water year, which is the year type Reclamation was operating under until the recent ruling by the Ninth Circuit Court of Appeals¹. However, if the ruling becomes effective in the near future, there will be an additional 24,300 af of available water for use in 2004 under the Record of Decision (ROD) for the Trinity River Restoration Program².

In releasing the 36,300 af of water that has been proposed, Reclamation will account for the water as comprising the 11,313 af of water from last year first, then Reclamation will account for the remainder of the releases as from the 25,000 af of water acquired by Reclamation from willing sellers in the CVP. If the Ninth Circuit Court decision becomes effective in the near future, Reclamation will account for 24,300 af of the releases as being made pursuant to the ROD, instead of accounting for the releases as from the pool of water acquired from willing sellers in the CVP. In such an instance, where the ROD water is available, Reclamation will direct the balance of the water purchased from willing sellers not needed for fall flows for use in furtherance of other project purposes.

Therefore, this Finding of No Significant Impact (FONSI) and the Environmental Assessment (EA) upon which it is based, cover the purchase and release from the TRD of up to 25,000 af of water in 2004 and the use in 2004 of all or part of the 11,313 af of water carried over from the 2003 acquisition of water for release to the Trinity River. Should the Ninth Circuit Court decision become effective in the near future, then the bulk of the releases (24,300 af out of the total of approximately 36,300 af) would be accounted for as being from the ROD water. In such a circumstance, any remaining portion of the acquired water would be available for use in the CVP in accordance with authorized project purposes.

¹Under the ROD, a "normal" water year is defined as allowing 647,000 af to be released, and a "wet" water year is defined as releasing 701,000 af. However, because certain downstream improvements have not been finalized, releases must be limited to 6,000 cfs. Consequently, instead of 54,000 af of water being available for release (701,000 less 647,000), only 24,300 af is available for release.

²This additional 24,300 af of ROD water is made available pursuant to the adaptive management provisions in the ROD. Under the Adaptive Management Program, analyzed as part of the preferred alternative for the Trinity River Restoration Program, the Department may shift some of the flows from the normal spring-peak hydrograph for release later in the fall, as long as the total release in any water year does not exceed the total amount allowed under

The supplemental releases will occur between the start of the salmon run in the Klamath River, which typically occurs about August 15, and the start of salmon spawning in the Trinity River, which typically occurs about September 15. Criteria for determining release of this water will be determined by Reclamation after consideration of fishery recommendations in consultation with the TMC. The timing, size, and pattern of releases will be made in a manner similar to those used in 2003, in conformance with the recommendation of the TMC.

FINDINGS

In accordance with the 1969 National Environmental Policy Act (NEPA), as amended, Reclamation's Northern California Area Office has found that an Environmental Impact Statement (EIS) is not required for the following: (1) The purchase of 25,000 af of CVP water from the Sacramento River Water Contractors Association (Association) in 2004; (2) scheduled release of up to about 36,300 af of Trinity River and supplemental water between approximately August 15 and September 15, 2004, and (3) emergency releases at rates up to 2,000 cubic feet per second (cfs) before September 30, 2004.

This FONSI is based on the following:

1. CVP water to be purchased by Reclamation from the Association is made available by members of the Association that determined they would not need all the CVP water they are contractually obligated to purchase in 2004. There will be no change in cropping patterns and diversions as a result of the proposed action.
2. Impacts to carryover storage would be minimal; storage in Trinity Reservoir as of July 15, 2004, was about 52,000 af above the average for the past 15 years, and may become moot, depending upon precipitation in 2004 and 2005.
3. Release rates would be much smaller than the 6,000 cfs maximum release rate allowed by the ROD for the Trinity River Mainstem Fishery Restoration EIS prior to completion of floodplain improvements and therefore would pose no significant threats to existing structures or other resources.
4. Construction of replacement bridges on the Trinity River would not be precluded.
5. Power losses would be an estimated 34.2 gigawatt-hour (GWh) a small percentage of the annual production of the Shasta-Trinity Power Plant complex.

the ROD. Because the water year for the Trinity Basin is classified as a "wet" water year and not a "normal" water year, once the ROD is implemented, the Department will be authorized to release the amount of water specified in a wet water year. The amount of the difference between a normal water year and a wet water year for 2004 is approximately 24,300 af (see note 1, previous page). Consequently, the release of this block of water and the decisions made through the Adaptive Management Program for structuring the release have previously been analyzed under NEPA in the Final EIS for the Trinity River Restoration Program and, therefore, are not subject to any further environmental review prior to implementation.

6. Storage would be reduced slightly for 2004 in Shasta and Trinity Reservoirs (36,300 af is about 1½ days release from Shasta Lake in the irrigation season), with water transfers to the Sacramento River being reduced by a similar amount. Because the releases from the TRD in 2004 have been based on the assumption that 2004 was a normal year, whereas 2004 was actually a wet year, about 54,000 af of water either remained in storage in Trinity Reservoir or was transferred to the Sacramento Valley that would have been released into the Trinity River under the ROD, if the floodplain improvements had been completed. Thus, the effect of release of some of this water into the Trinity River under the proposed action would be merely to reduce the volume that would otherwise be transferred to the Sacramento River in 2004 or 2005 because the water allotment for release into the Trinity River each year is based on that year's inflow to the reservoir.
7. The proposed action will provide benefits to the Trinity River fishery, which is considered to be an Indian Trust Asset, and would not significantly adversely affect other Indian Trust Assets, resources, or cultural practices.
8. Effects on listed species are expected to be beneficial, and the proposed project is deemed not likely to adversely affect any listed aquatic species. The proposed action will not affect listed species other than fish and will not significantly affect special status terrestrial or riparian species because the water would not exceed the carrying capacity of the existing river channel and would be released sufficiently late in the season.
9. Neither water deliveries nor biological resources in the Sacramento Valley would be impacted in 2004 because the water being acquired under this action is water that is not otherwise being used this year.
10. To the extent the Ninth Circuit Court's decision is implemented in the near future, Reclamation will use that water in lieu of the water that has been purchased from willing sellers in the CVP. Because the use of this water from the ROD has been previously analyzed in the EIS for the Trinity River Restoration Program, there is no need for environmental analysis on this portion of the water, should it be released.

Approved:



Area Manager, Northern California Area
Office

August 19, 2004

Date

FONSI No.: NC-04-07

ENVIRONMENTAL ASSESSMENT

PURCHASE OF WATER FROM THE SACRAMENTO RIVER WATER
CONTRACTORS ASSOCIATION AND SUPPLEMENTAL FALL 2004 RELEASES
TO THE TRINITY RIVER

INTRODUCTION

The Department of the Interior, acting through the Bureau of Reclamation, plans to make scheduled releases of up to about 36,300 acre-feet (af) of water into the Trinity River between approximately August 15 and September 15, 2004, to supplement scheduled flows into the Trinity and lower-most Klamath Rivers. If additional releases above the approximately 36,300 af of water are required to protect fisheries, additional releases of up to 24,300 af may be made, if the water is available.

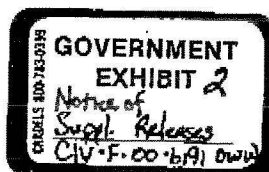
BACKGROUND

In September 2002, a substantial portion of returning Trinity River fall-run Chinook salmon died during a large-scale die-off in the Lower Klamath River. In response to this fish die-off and because the Trinity releases were in litigation, the Department submitted a report to Judge Oliver Wanger, U.S. District Court, on March 18, 2003, entitled *Recommendations for Averting Another Adult Salmonid Die-Off*, to justify additional late season water allocation to the Trinity River. Subsequently, on April 4, 2003, Judge Wanger issued a court ruling allowing Reclamation to use up to an additional 50,000 af of water from the Trinity River Division (TRD) of the Central Valley Project (CVP) "at its reasonable discretion" to prevent a recurrence of the September 2002 fish die-off in the Lower Klamath River.

The 2003 supplemental releases were intended as a one-time event, but the U.S. Fish and Wildlife Service (Service) and the National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) have informed Reclamation that annual releases otherwise set for 2004 may not be adequate to protect salmonids in the Klamath River in August and September. Consequently, the Department, through Reclamation, proposes to make greater releases in the fall of 2004, in coordination with the Service, NOAA Fisheries, and the Trinity Management Council (TMC), than were planned in the release schedule developed in the spring of 2004. Based on available data, the schedule assumed a normal water year, whereas 2004 proved to be a wet year in the Trinity Basin.

The water that Reclamation has identified as being available for use in the proposed fall release is comprised of the following: (1) 11,313 af of unreleased water carried over from the 2003 authorization for fall releases into the Trinity River and (2) 25,000 af of water that would be acquired in 2004 from willing sellers in the CVP.

There is also the potential that 24,300 af might become available once the decision of the Ninth Circuit Court in *Westlands v. Department of the Interior* is finalized and implemented and the



Record of Decision (ROD) becomes fully effective. The 24,300 af available under the ROD reflects the difference between a "wet" water year, which is the proper 2004 water year classification on the Trinity, and a "normal" water year, which is the year type Reclamation was operating under until the recent ruling by the Ninth Circuit Court of Appeals finding that the ROD should be implemented immediately. This ruling is not effective as of this date. However, when the ruling becomes effective, there is an additional 24,300 af available water for use in 2004 under the ROD¹.

In releasing the 36,300 af of water that has been proposed, Reclamation will account for the water as comprising the 11,313 af of water from last year first, then Reclamation will account for the remainder of the releases as from the 25,000 af of water acquired by Reclamation from willing sellers in the CVP. If the Ninth Circuit Court decision becomes effective in the near future, Reclamation will account for 24,300 af of the releases as being made pursuant to the ROD², instead of accounting for the releases as being from the pool of water acquired from willing sellers in the CVP. In such an instance, where the ROD water is available, Reclamation will direct the balance of the water purchased from willing sellers, but not needed for fall flows, for use in furtherance of other project purposes.

Water that might be made available due to implementation of the ROD, pursuant to the Ninth Circuit Court of Appeals decision, would be controlled by the Adaptive Management Program authorized in the ROD. Consequently, the release of this block of water and the decisions made through the Adaptive Management Program for structuring the release have previously been analyzed under the National Environmental Policy Act (NEPA) in the Final Environmental Impact Statement (EIS) for the Trinity River Restoration Program and are not subject to any further environmental compliance prior to implementation.

This Environmental Assessment (EA), therefore, covers the purchase and release to the Trinity River of up to 25,000 af of water in 2004 and the use in 2004 of all or part of the 11,313 af of water carried over from the 2003 acquisition of water for release to the Trinity River. That portion of the 25,000 af acquisition in 2004 that is not used on the Trinity River would be used elsewhere in the CVP in accordance with other environmental analyses.

¹Under the ROD, a "normal" water year is defined as allowing 647,000 af to be released, and a "wet" water year is defined as releasing 701,000 af. However, because certain downstream improvements have not been finalized, releases must be limited to 6,000 cfs. Consequently, instead of 54,000 af of water being available for release (701,000 less 647,000), only 24,300 af is available for release.

²This additional 24,300 af of ROD water is made available pursuant to the adaptive management provisions in the ROD. Under the Adaptive Management Program, analyzed as part of the preferred alternative for the Trinity River Restoration Program, the Department may shift some of the flows from the normal spring-peak hydrograph for release later in the fall, as long as the total release in any water year does not exceed the total amount allowed under the ROD. Because the water year for Trinity is classified as a "wet" water year and not a "normal" water year, once the ROD is implemented, the Department will be authorized to release the amount of water specified in a wet water year. The amount of the difference between a normal water year and a wet water year for 2004 is approximately 24,300 af (see note 1, above.). Consequently, the release of this block of water and the decisions made through the Adaptive Management Program for structuring the release have previously been analyzed under NEPA in the Final EIS for the Trinity River Restoration Program and, therefore, are not subject to any further environmental review prior to implementation.

The supplemental releases would occur between the start of the salmon run in the Klamath River, which typically occurs about August 15, and the start of salmon spawning in the Trinity River, which typically occurs about September 15. Criteria for determining releases of CVP water would be determined by Reclamation after consideration of fishery recommendations in consultation with the TMC. For purposes of analysis, however, this EA assumes Reclamation will make supplemental releases of carryover and purchased water as needed to supplement the releases made under the adaptive management provisions of the ROD. After September 30, any other water not released to the Trinity River would be managed under normal operating procedures of the CVP.

PURPOSE AND NEED

The purpose of the proposed actions is to provide water for supplemental flows late in 2004 because the Service and NOAA Fisheries have informed Reclamation during informal discussions that annual releases otherwise set for 2004 may not be adequate to protect salmonids in the Klamath River in August and September.

PROPOSED ACTIONS AND ALTERNATIVES

Acquisition Alternatives

Acquisition Alternative 1 - No Action

Reclamation would take no action to address River conditions that create the potential for a fish die-off in the Lower Klamath River.

Acquisition Alternative 2 - Purchase of Water

Reclamation would purchase 25,000 af of water from the Sacramento River Water Contractors Association (Association) during the 2004 water year from a willing seller for releases to the Trinity River and other CVP purposes. Releases from the TRD for the Trinity fishery will occur in accordance with criteria that identifies when River conditions create the potential for a fish die-off. Reclamation is currently negotiating an agreement to purchase 25,000 af of CVP water in 2004 from the Association, a group of Sacramento River Settlement Contractors (members), each of whom has a contract with Reclamation for diversion of water from the Sacramento River, including water supplied by the CVP. On an annual basis, each member determines the quantity of CVP water it does not need that is available to become part of the Association's pool, which then can be purchased by other Sacramento River Settlement Contractors or Reclamation.

Use Alternatives

Use Alternative 1 - No Action

No supplemental water would be released. Releases would remain at base level of 450 cfs through at least September 15.

Use Alternative 2 - Release up to about 36,300 af of water between approximately August 15 and September 15 at scheduled release rates up to 2,000 cfs, with no emergency reserves (Proposed Action):

This alternative would use the following: (1) The 11,313 af of water carried over from 2003 and (2) 25,000 af of newly-purchased water, unless the Ninth Circuit Court decision becomes effective in the near future. In that case, Reclamation would (1) Account for 24,300 af of the releases as being made pursuant to the ROD, (2) release the 11,313 af of carryover water, and (3) use up to approximately 700 af of the newly-acquired water. The balance of that newly-purchased water would be used in furtherance of other CVP purposes. No water would be held back for use as an emergency reserve.

Up to about 36,300 af of water would be released between approximately August 15 and September 15 on a schedule to be determined after consideration of the recommendations of fishery biologists. Because river conditions are uncertainly changing, we are analyzing the proposed action as occurring within a 30-day window between August 15 and September 15. Hydrological bounds are set by the 450 cfs base release on the low end and, on the high end, the 6,000 cfs maximum releases allowed under the ROD prior to rebuilding the bridges. A total release of 2,000 cfs, i.e., about 4,000 af/day, was chosen as an approximate upper limit for scheduled flow augmentation because a 2,000 cfs release would exhaust the supplemental water supply in little more than 9 days and is therefore likely to exceed the maximum releases that might be scheduled. A maximum release rate of 2,000 cfs provides a worst case assumption for purposes of NEPA analysis. This same upper limit is assumed to hold for emergency releases under other alternatives.

Opening of the supplemental release window is set by the time required to reach agreement on the action to be taken and the typical timing of the start of the spawning run in the Klamath River (August 15) while the closing of that window is set by the onset of spawning of the spring-run Chinook salmon in the Trinity River (September 15). Actual start and end dates may differ slightly from these dates in response to conditions in the river.

Assuming a constant release over a 3-week period within the 4-week window, releases would be augmented by approximately 840 cfs, for an average release of 1,290 cfs to the Trinity River during that 3-week period. Actual quantities would vary from this approximate number in response to ramping patterns, but the net effect would always be a large increase in releases to the Trinity River. Because the runs in the Klamath River generally start before those in the Trinity River, it is probable that this would be an upper limit of what might be expected. The

best that can now be said under these assumptions of release patterns is the augmentation of flows in the lower-most Klamath River would likely to be in the range of 240 to 1,100 cfs during the period in which additional releases are made from either or both Iron Gate and Lewiston Dams.

Proposed releases would be similar to, but on average slightly lower than, those of 2003, when Lewiston Dam releases were ramped up from 450 cfs on August 24 to a peak flow of 1,650 cfs and then gradually reduced to about 1,000 cfs before being rapidly dropped to base releases of 450 cfs on September 15 at the onset of spring-run Chinook spawning. Releases proposed for 2004 probably would be similar in the timing and pattern of release to the supplemental releases of 2003, although other patterns may be recommended by biologists based on the 2003 experience. Criteria for releases may differ from those of 2003, but they remain to be determined. For purposes of this analysis, this EA assumes the releases would be made.

Use Alternative 3 - Release up to 25,300 af of water between approximately August 15 and September 15 at scheduled release rates up to 2,000 cfs, with up to approximately 11,000 af held in emergency reserves:

This alternative assumes the following: (1) Use of the 11,313 af of water carried over from 2003 and (2) 24,000 af of newly-purchased water, unless the Ninth Circuit Court decision becomes effective in the near future. In that case, Reclamation would (1) Account for 24,300 af of the releases as being made pursuant to the ROD, (2) release about 1,000 af of the carryover water, and (3) hold the balance of the carryover water as an emergency reserve. A portion of the newly-acquired water might also be held in reserve but the balance of that newly purchased water and any unused carryover water would be used in furtherance of other CVP purposes. Thirty percent of the approximately 36,300 af total would be used as an emergency reserve.

Release patterns would be similar to those of Use Alternative 2. About 25,300 af would be scheduled for release. Approximately 30-percent of the water (11,000 af) would be held in reserve, as was the case in 2003. Use of this emergency water would be determined by onset of one or more criteria, such as an estimated doubling in less than 7 days of either the incidence (proportion of fish infected) or severity (number of parasites per gill) of Ich.

If triggered, the emergency release would probably consist of release of an additional 1,100 cfs for at least 5 days from Lewiston Dam for an emergency release volume of approximately 2,200 af/day. The total release for those 5 days would be about 11,000 af, with a total release rate of 1,550 cfs.

Evaluation of the triggers for emergency release would probably be based on real-time monitoring of disease incidence to be conducted in the Lower Klamath River in the geographic locations of the die-off that occurred in 2002. Actual triggers would be selected after consultation with fishery biologists.

Use Alternative 4 - Release up to about 36,300 af of water between approximately August 15 and September 15 at scheduled release rates up to 2,000 cfs, with up to 24,300 af held in emergency reserves:

This alternative assumes the Ninth Circuit Court decision becomes effective in the near future. In that case, Reclamation would (1) Account for 24,300 af of the releases as being made pursuant to the ROD, (2) release the 11,313 af of carryover water, and (3) use up to approximately 700 af of the newly-acquired water for scheduled releases. Up to 24,300 af would then be held in an emergency reserve through at least September 15 and would then be used in furtherance of other CVP purposes. This would be consistent with the TMC's recommendation of retention of 17,500 af as an emergency reserve, if possible.

Release patterns would be similar to those of Use Alternative 1, as about 36,300 af would be released, with up to 24,300 af being held in emergency reserve. As in 2003, use of this water would be determined by onset of one or more criteria, such as an estimated doubling in less than 7 days of either the incidence (proportion of fish infected) or severity (number of parasites per gill) of Ich.

If made, an emergency release would involve an approximate 21-day release of an additional 578 cfs from Lewiston Dam for a total emergency release volume of approximately 24,300 cfs. When added to scheduled releases, this would give a total release rate of approximately 1,894 cfs for all or part of the 21-day period.

Evaluation of the criteria for emergency release would probably be based on real-time monitoring of disease incidence to be conducted in the Lower Klamath River in the geographic locations of the die-off that occurred in 2002. Actual criteria for emergency releases would be selected after consultation with fishery biologists.

Use Alternatives Considered But Eliminated From Further Consideration

Use alternatives considered but eliminated from detailed analysis in 2003 were reviewed, but not reconsidered for 2004 because circumstances are materially unchanged. However, aspects of those alternatives, which fall within the constraints outlined in Use Alternative 2, may be adopted in 2004 following input from fishery biologists.

Alternatives in which the whole of the 25,000 af of newly-purchased water would be scheduled for release were discarded. Such alternatives would entail prolonged, high flows in the late summer, a release pattern considered but discarded in 2003 on biological bases. Such alternatives would greatly increase costs and difficulties of completion of the in-stream work for the replacement bridges, putting the timely implementation of the restoration program at risk. That, in turn, would jeopardize the long-term interests of fishery protection and restoration because the inadequacy of the existing bridges constrains the volumes of releases to the Trinity River. Thus, releases great enough to substantially delay construction perpetuate the low flow problems supplemental fall releases are intended to resolve on an interim basis.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Physical Resources

The average release rates in the Trinity River over the 3-week period would be nearly 3 times the base discharge called for by the flow schedule for 2004, but far below the maximum 6,000 cfs discharge allowed prior to rebuilding of the bridges. Therefore, the effect of the proposed action on physical structures and sediment distributions in the river would be well within the bounds of those associated with planned releases, with the exception of construction of three replacement bridges required under the ROD. Permits for this work obtained from the California Department of Fish and Game and the Regional Water Quality Control Board, and the 2000 Biological Opinion for Trinity River Restoration from NOAA Fisheries, require work within the ordinary high water mark to be completed by November 15, 2004. The fall flow release would occur during a period of intense activity by contractors to finish their work within the channel in accordance with permits and would impose a condition on construction contracts not anticipated by construction contractors in preparing their bids. If higher fall flows were implemented, contract renegotiations would likely impact the cost and completion dates.

Water releases would not affect releases in 2005 because releases to the Trinity River in any given year are based on that year's classification as to water-year type. Therefore, any water not used in the Trinity Basin in 2004 would have no impact on releases to the Trinity River in subsequent years. However, a carryover would affect the amount available for export to the Sacramento Valley and associated electric power generation. Such affects would be small on a percentage basis, as they would affect 2 percent or less of the water stored in Trinity Reservoir as of July 15, 2004.

Release of 36,300 af of water to the Trinity River in 2004 in lieu of the eventual export to the Sacramento River would be a loss of 34.2 GWh of electric power generation. This loss would be a small percentage of annual power production of the CVP, even though absolute numbers are substantial.

Use of an emergency reserve, if one were maintained and used, would have some affect on sediment distribution in the Trinity River, but no substantial change from those incurred in winter, when larger flows are common; however, such a release would impact the in-river construction.

The No Action alternative would have no affect on the physical environment, unless emergency reserves are feasible and used. Should such flows occur, effects in the Trinity River would not differ from those of typical winter flows.

Biological Resources

Biological affects of the proposed 2004 releases would be beneficial and nearly the same as those of 2003. As noted in the EA for the 2003 releases, the proposed releases would:

- Minimize risk of dewatering spring-run Chinook salmon redds in the upper Trinity River.
- Reduce potential pre-spawn adult crowding low in the watershed by supplying conditions known to provide unimpaired upstream passage and increasing wetted in-river habitat.
- Decrease adult fish densities, reducing ability of waterborne pathogens to spread.

Releases, and hence flows, would be augmented during the interval between approximately August 15 and September 15. Most flow augmentation would probably occur during the peak abundance of Trinity River hatchery fall-run Chinook salmon in the estuary. At this time, fish are at their highest in-river densities and, therefore, at greatest risk of disease, transmittal, and outbreak. Providing flow during peak estuary abundance would initiate upstream adult migration and decrease in-river fish densities at the most critical time.

Assuming release regimes similar to those used in 2003, the increased August-September releases would provide in-river conditions known to improve upstream passage for adult fall-run Chinook, rather than just providing short-term migration cues. It is possible that the increased releases would increase the risk of straying of Klamath fish into the Trinity River, but experience on the Sacramento River and last year's results suggests this would not happen.

Should Alternative 3 be adopted, emergency reserves would be used to break the disease cycle in the event of a severe outbreak, but retention of water for a reserve would tend to increase occurrence of the very problem the emergency reserves would be used to combat. Thus, it is not clear that creation and use of an emergency reserve would be a net benefit.

The Alternative Action 1 - No Action alternative would leave the risk of a fish die-off unchanged.

Threatened, Endangered, and Sensitive Species

The action alternatives are intended to benefit salmon runs primarily by reducing the potential occurrence and severity of a fish die-off of adults holding low in the Klamath-Trinity system, but might also increase the success of rearing coho salmon by inundating additional habitat, thereby providing increased feeding.

Concerns have been expressed by some parties that supplemental releases of the sort proposed would increase the potential for straying of Klamath River fish into the Trinity River or would lure fish into excessively warm waters in the Klamath River upstream of the Klamath-Trinity confluence. However, no such negative effects were noted during observations in 2003, and

such movements are not expected to be substantial problems. The 2003 releases upon which this action is modeled were reviewed by NOAA Fisheries for potential affects to threatened Southern Oregon Northern California Coastal (SONCC) coho salmon, their critical habitat, and Essential Fish Habitat for fish species federally managed under Pacific Salmon Fishery Management Plans (coho and Chinook salmon). NOAA Fisheries concurred that implementation of the 2003 Preferred Alternative would not be likely to adversely affect threatened SONCC coho salmon or designated SONCC coho salmon critical habitat. While NOAA Fisheries and other interested parties have not yet had an opportunity to comment on specific 2004 proposals, lack of change in circumstances from 2003 warrants an expectation that a "not likely to adversely affect" determination would be given again for the Trinity and Klamath fisheries, if care is taken to avoid stranding of juvenile fish.

Proposed releases to the Trinity River of 36,313 af would have little or no impact on CVP operations in 2004 because physical transfers of water from the Trinity River to the Sacramento basins mainly occur in the spring. Release of additional stored water to the Trinity River in the fall would modestly affect power production and could affect temperature control in the Sacramento River in 2005, if there is no spillage of water from Trinity Reservoir in the 2004-2005 rainy seasons. Current high storage levels in northern CVP reservoirs indicate that winter 2004-2005 runoff will probably fill northern CVP reservoirs to their flood control limitations, eliminating even this small potential effect.

Because the water will be confined to the existing channel, no affects are expected on any Federally-listed terrestrial or riparian species, although species of special concern such as the yellow-legged frog, the northwestern pond turtle, and the western tailed frog may be affected, both positively and negatively, with affects on the yellow-legged frog being the more probable. The overall impact, however, would be modest, if the flows occur late in August as recommended by the TMC because maturation is more likely to be complete by late August.

Cultural Resources

Implementation of the supplemental releases would have no impacts on cultural resources (historic properties) within the CVP area, which includes the shoreline of Trinity Reservoir and banks of the Trinity River.

It is estimated that the release of approximately 36,300 af of water from Trinity Reservoir will lower lake levels approximately 2 to 3 feet. This decrease in water level, compared to the No Action Alternative, could result in the increased exposure of cultural resources within the reservoir's inundation zone. As of July 15, 2004, current storage and elevation of Trinity Reservoir is 85 percent of last year's storage at this same time. Further reductions for 2004, including the proposed action, would be well within the range of existing draw downs. Reservoir draw downs resulting from implementation of this action would not affect cultural resources that are not normally exposed during draw downs.

Previously conducted record searches indicate the presence of historic and prehistoric cultural resource sites primarily on the river terraces of the Trinity River. The Environmental Impact Statement/Environmental Impact Report states that it is unlikely that even 30,000 cfs peak flows would have major impacts on cultural resources, given that prior to construction of the dam, historic peaks were 70,000 cfs or greater and that the remaining cultural resources are well above the floodplain. Because the instantaneous maximum releases of the proposed alternative would be about 2,400 cfs in the event of an emergency release, it would be confined to the existing channel, and cultural resources along the river would not be affected.

All actions proposed under this EA would be in compliance with the Programmatic Agreement (PA) between the Hoopa Valley Tribe, the Service, Reclamation, the Bureau of Land Management, the State Historic Preservation Officer, and the Advisory Council for Historic Preservation for compliance with Section 106 of the National Historic Preservation Act in place for the Trinity River Mainstem Fishery Restoration Project.

Indian Trust Resources

The proposed releases would likely benefit Trinity River fish and have no negative impacts on other tribal resources, e.g., willow shoots, blackberries, bears, and waterfowl, because increased flows would be confined to the existing channel. The No Action Alternative would be less protective of aquatic tribal trust resources, e.g., Trinity River salmonids, sturgeon, and lamprey, than the proposed releases and is inconsistent with the expressed wishes of the Hoopa and Yurok Tribes.

Other Socio-Economic Resources

No adverse affects are anticipated on other cultural resources. There may be modest benefits to river-based businesses, such as rafting and fishing, and allied onshore support services, such as motels and restaurants, but no permanent affects are anticipated.

Growth Inducing Impacts

Implementation of the proposed releases would not create additional jobs or require additional housing, consequently, no growth inducing impacts would occur. The action is being conducted solely for the benefit of populations of anadromous fish and is a one-time event, conducted over an approximate 3-week period.

Environmental Justice

Implementation of the proposed releases would not result in a change to land use or employment that would disproportionately affect minority or low-income populations or communities.

CVP Operations

Water deliveries would not be affected nor would temperature control operations in the Sacramento River, because the late fall imports of water, were they to occur, would not help cool the upper Sacramento River. Only power generation might be affected by releasing water down the Trinity River as opposed to transferring it to the Sacramento River, but those affects would be a small percentage of the annual electric generation from such transfers.

Cumulative Impacts

The cumulative effects of the proposed releases have been considered in association with other past, present, and reasonably foreseeable future actions.

As required by the May 25, 2002, NOAA Fisheries Biological Opinion (BO) on Klamath Project Operations, Reclamation acquired 75,000 af for a water bank in 2004 and used this water to supplement Klamath River flows downstream from Iron Gate Dam.

The Klamath Project has provided flows for tribal trust needs, in addition to the 75,000 af from the water bank, including 8,500 af of water in 2004 stored on national wildlife refuges in the upper Klamath Basin, to help meet tribal trust fish and wildlife needs downstream from Iron Gate Dam. All of these actions focused on the spring out-migration of juveniles. However Reclamation continues to explore the possibilities of availability of water from the Klamath Basin for emergency fall releases in 2004. The cumulative effects of these releases to the Klamath River and the proposed fall 2004 releases to the Trinity River, should they both occur, would be positive.

CONSULTATION AND COORDINATION

Timing of the water acquisition and court decisions relative to timing of the runs means that the customary 30-day public review will not be feasible if the benefits of releases are to be maximized. Accordingly, if time permits, this EA will be posted on the Internet and those parties historically active in restoration activities on the Klamath and Trinity Rivers will be notified of its availability and given as much time as feasible to comment. If this is not feasible, however, Reclamation will only seek the advice of fishery biologists representing interests historically involved in the Trinity River Restoration Program and the TMC for the proposed supplemental release schedule for 2004 and the designation of criteria for emergency flows to be used should water reserves be available.

Given the expectation that the release will affect listed species beneficially, NOAA Fisheries will be asked to concur with a determination of "Not Likely to Adversely Affect" listed species. No affect is expected on species under the Service's jurisdiction and, therefore, no consultation will be required with the Service.

EXHIBIT 4

RECLAMATION

Managing Water in the West

Final Environmental Assessment 2012 Lower Klamath River Late Summer Flow Augmentation

EA-NC-12-05



U.S. Department of the Interior
Bureau of Reclamation

August 2012
01174

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Contents

| | Page |
|--|----------|
| Introduction..... | 1 |
| Background..... | 1 |
| Need for the Proposal..... | 2 |
| Reclamation’s Legal and Statutory Authorities and Jurisdiction Relevant to the Proposed Federal Action..... | 3 |
| Scope | 3 |
| Resources Eliminated from Further Analysis..... | 3 |
| Resources Requiring Further Analysis | 5 |
| Alternatives Including the Proposed Action..... | 5 |
| No Action Alternative..... | 5 |
| Proposed Action..... | 6 |
| Alternatives Considered But Eliminated From Further Consideration..... | 8 |
| Affected Environment and Environmental Consequences | 8 |
| Water Resources | 8 |
| Affected Environment..... | 9 |
| Environmental Consequences | 9 |
| No Action..... | 9 |
| Proposed Action..... | 9 |
| Cumulative Impacts | 11 |
| Biological Resources | 11 |
| Affected Environment..... | 11 |
| Environmental Consequences | 12 |
| No Action..... | 12 |
| Proposed Action..... | 12 |
| Cumulative Impacts | 12 |
| Indian Trust Assets | 13 |
| Affected Environment..... | 13 |
| Environmental Consequences | 13 |
| No Action..... | 13 |
| Proposed Action..... | 13 |
| Cumulative Impacts | 13 |
| Environmental Justice..... | 14 |
| Affected Environment..... | 14 |
| Environmental Consequences | 14 |
| No Action..... | 14 |
| Proposed Action..... | 14 |
| Cumulative Impacts | 14 |
| Socioeconomic Resources | 14 |

| | |
|--|-----------|
| Affected Environment..... | 14 |
| Environmental Consequences..... | 15 |
| No Action..... | 15 |
| Proposed Action..... | 15 |
| Cumulative Impacts | 16 |
| Consultation and Coordination | 16 |
| Public Review | 16 |
| Endangered Species Act (16 U.S.C. § 1531 et seq.)..... | 17 |
| California Water Code (§ 1435 et seq.) | 18 |
| References..... | 18 |
| Appendix One - List of Acronyms and Abbreviations | 20 |
| Appendix Two – Response to Comments..... | 21 |

Introduction

Background

In September, 2002, a substantial number of returning adult fall-run Chinook salmon died prematurely in the lower Klamath River. Federal, Tribal, and State biologists studying the die-off concluded that: (1) pathogens *Ichthyophthirius multifiliis* (Ich) and *Flavobacterium columnare* (Columnaris) were the primary causes of death to fish; and (2) warm water temperatures, low water velocities and volumes, high fish density, and long fish residence times likely contributed to the disease outbreaks and subsequent mortalities (Guillen 2003; Belchik et al. 2004; Turek et al. 2004).

Outbreaks of Ich occur when conditions are favorable for rapid multiplication of the parasite, such as warm water, high fish densities, and stressed fish. The adult phase of this parasite is called a trophozoite, and resides and feeds on the skin and gills of the infected fish. Cysts break off the fish, find substrate (the bottom of the river), and multiply into thousands of free swimming bodies called tomites. The free swimming tomites then seek out a new host, grow to full size, and the cycle repeats itself. Larger, sexually mature fish, such as those that died in the 2002 fish die-off, are more susceptible to Ich and development and growth of the life stages of this parasite are highly dependent on temperature; growth is accelerated with increased temperatures. Relatively higher river flows generally result in increased water volumes, velocities, and turnover rates in a given river reach. Flows in the lower Klamath River were about 2,500 cubic feet per second (cfs) during the first half of August 2002, then decreased to about 2,000 cfs by September. Flows averaged about 2,000 cubic feet per second (cfs) during September.

In 2003 and 2004, predictions of relatively large runs of fall-run Chinook salmon to the Klamath River Basin and drier than normal hydrologic conditions prompted Reclamation to arrange for late-summer flow augmentation to increase water volumes and velocities in the lower Klamath River to reduce the probability of a disease outbreak in those years. Thirty three thousand acre feet (TAF) of supplemental water were released from Trinity Reservoir in 2003, and 36 TAF in 2004. While documentation of the effectiveness of these events is limited, general observations were that implementation of the sustained higher releases from August to early September in each year coincided with no significant disease or adult mortalities.

Based on the estimated number of 2 year-old fish in the 2011 Klamath Basin fall Chinook salmon run, the 2012 ocean abundance (pre-harvest) of fall-run was

estimated to be 1.6 million (PMFC 2012a). After considering estimated ocean harvest and other mortality, an early estimate of the in-river run of adult fall-run Chinook salmon was approximately 352,000. Later, the in-river run size was estimated at 381,000 (PFMC 2012b). This run size would be the largest on record since records were kept beginning in 1978, and more than three times the 1978-2011 average of just over 100,000. Because of the expected extremely large run size, and the relatively dry conditions in the upper Klamath Basin and associated expected flows in the Klamath River during the late summer, fish biologists who work in the basin were concerned that conditions could be conducive to a fish die-off similar to that in 2002. Consequently, a subgroup of the Trinity River Restoration Program's (TRRP) Flow Work Group convened several times to develop recommendations to monitor the in-river Chinook salmon run, establish thresholds for actions aimed at preventing any fish die-off, and provide associated recommendations for preventative actions.

Need for the Proposal

The purpose of implementing the Proposed Action is to increase lower Klamath River flows to reduce the likelihood, and potentially reduce the severity, of any fish die-off in 2012. Agency reports regarding the 2002 die-off identified crowded holding conditions for pre-spawn adults, warm water temperatures, and presence of disease pathogens (i.e., Ich and Columnaris) as the likely major factors contributing to the adult mortalities.

The biological consequences of large-scale fish die-offs could substantially impact present efforts to restore the native Trinity River anadromous fish community and the fishery. Reductions in the Klamath and Trinity River fish populations affect Tribal fishery harvest opportunities, ocean harvest levels, recreational fishing, as well as public perception and recovery mandates. Loss of 3 year-old and 4 year-old fish could affect the population structure, and may impede recovery goals as identified in the Trinity River Division Central Valley Project Act of 1955 (P.L. 84-386), and the Central Valley Project Improvement Act of 1992 (P.L. 102-575), for naturally produced fall run Chinook salmon.

By way of further background, in a March 5, 2003 court hearing, Judge Oliver Wanger directed the Department of the Interior to determine what actions would be necessary to "assure against the risk of fish losses that occurred late in the [2002] season" (U.S. District Court 2003a). Judge Wanger subsequently issued a ruling on April 4, 2003, allowing the Bureau of Reclamation to use an additional 50 TAF from the Trinity River Division of the Central Valley Project "at its reasonable discretion" to prevent a recurrence of the September 2002 fish die-off (U.S. District Court 2003b). Projected flow conditions and a forecasted record fall-run Chinook salmon escapement to the lower Klamath River in 2012 present similar conditions to those experienced during the die-off in 2002. Therefore, Reclamation is considering implementing the Proposed Action as a preventative

means to minimize any substantive disease outbreaks and the likelihood of another fish die-off in 2012.

Reclamation's Legal and Statutory Authorities and Jurisdiction Relevant to the Proposed Federal Action

The Trinity River Division Central Valley Project Act of 1955 (P.L.84-386) provides the principle authorization for implementing the Proposed Action. Specifically, section 2 of the Act states that “the Secretary is authorized and directed to adopt appropriate measures to insure preservation and propagation of fish and wildlife...” (emphasis added).

Scope

Implementation of the Proposed Action would be limited to late summer 2012 flow releases from storage in the Trinity River Basin; the affected environment would include the Trinity River and Klamath River from Lewiston Dam downstream to the Klamath River estuary near Klamath, California. Additionally, the affected environment could include the Sacramento River basin as transbasin diversions from Trinity River basin to the Sacramento River basin occur annually.

Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment of the Proposed Action and No Action Alternative and has determined that there is no potential for direct, indirect, or cumulative effects to the following resources:

- **Cultural Resources:** Reclamation uses the National Historic Preservation Act of 1966 (16 U.S.C. 470) Section 106 process to consider the effect to historic properties relating to a federal action or “undertaking” as outlined in the Section 106 implementing regulations at 36 CFR §800. The Proposed Action involves the release of flows from Lewiston Dam on the Trinity River to augment flows in the lower Klamath River. The release of flows from Lewiston Dam would be within the normal release flow range and water levels along the Trinity River, and would not exceed the historic range of flows in the Trinity River. As a result, Reclamation has determined that the proposed action has no potential to cause effects to cultural resources eligible for inclusion in or listing on the National Register pursuant to 36 CFR §800.3(a)(1). Based on this finding, Reclamation eliminated cultural resources evaluation from further analysis in this document.
- **Indian Sacred Sites:** Reclamation is required by EO 13007, to the extent practicable permitted by law, and not clearly inconsistent with essential

agency functions, to: (1) accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners; and (2) avoid adversely affecting the physical integrity of such sacred sites. When appropriate, Reclamation shall, to the greatest extent possible, maintain the confidentiality of sacred sites.

The Proposed Action would not inhibit access to or ceremonial use of an Indian Sacred Site, nor would the Proposed Action adversely affect the physical integrity of such sacred sites.

- Floodplains, Wetlands and Waterways: Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands.

The Proposed Action does not involve construction, dredging or other modification of regulated water features. No permits under the Clean Water Act [CWA] (33 U.S.C. 1251) would be needed. Further, the Proposed Action only includes providing controlled reservoir releases that are within the normal operational envelope.

- Land Use: Under the Proposed Action, there would be no changes in land use due to implementation of the Proposed Action. The proposed water releases from Lewiston Dam are within the historic range of flows addressed in the Trinity River Mainstem Fishery Restoration Environmental Impact Statement/Environmental Impact Report (TRMFR EIS/EIR; U.S. Fish and Wildlife Service et al. 2000). In addition, the magnitude and timing of the target flows in the lower Klamath River are well within the range of historic flows resulting from rainstorms, etc. Therefore, no changes in land use near the rivers will be required as a consequence of the Proposed Action.
- Air Quality: Section 176 (C) of the Clean Air Act [CAA] (42 U.S.C. 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal CAA (42 U.S.C. 7401 [a]) before the action is otherwise approved.

The Proposed Action would have no impacts to air quality.

- In 2006, the State of California issued the California Global Warming Solutions Act of 2006, widely known as Assembly Bill 32, which requires California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verification of statewide Greenhouse Gas (GHG) emissions. CARB is further directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. In addition, the Environmental

Protection Agency has issued regulatory actions under the Federal Clean Air Act as well as other statutory authorities to address climate change issues (EPA 2011c).

There would be no GHG generated by the Proposed Action. Accordingly, the activities under the Proposed Action would result in no impacts to global climate change.

As there would be no impact to the resources listed above resulting from the Proposed Action or the No Action alternative, they will not be considered further.

Resources Requiring Further Analysis

This EA will analyze the affected environment of the Proposed Action and No Action Alternative in order to determine the potential direct, indirect, and cumulative effects to the following resources:

- Water Resources
- Biological Resources
- Indian Trusts Assets
- Environmental Justice
- Socioeconomic Resources

Alternatives Including the Proposed Action

This Environmental Assessment (EA) considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

No Action Alternative

Under the No Action Alternative, late-summer releases from Lewiston Dam would remain at 450 cfs, as prescribed in the Record of Decision for the TRMFR EIS/EIR (U.S. Fish and Wildlife Service et al. 2000). Flow releases at Iron Gate Dam on the Klamath River would be consistent with the 2010 National Marine Fisheries Service (NMFS) biological opinion addressing operation of Reclamation's Klamath Project, about 1,030 cfs. In addition, Reclamation would also direct an increase in Iron Gate Dam releases to provide water for the Yurok Tribe's Boat Dance Ceremony (Ceremony) as is customary in even numbered

years. In 2012, the Ceremony will require Iron Gate Dam releases to increase from base flows to a peak of approximately 1,600 cfs for one day on August 31 for the Ceremony on September 2, with the goal of meeting a target flow of 2,300 cfs approximately 130 miles downstream of Iron Gate Dam at the Orleans gage. Following the Ceremony, Iron Gate Dam releases would be decreased at an appropriate rate down to base flow for the season.

Under the No Action Alternative the estimated flows in the lower Klamath River (U.S. Geological Survey Site #11530500; Klamath near Klamath gage [KNK]), and scheduled releases from Lewiston Dam are shown in Figure 1. Forecasted flows at the KNK gage would average about 2,800 cfs in the second half of August and about 2,660 cfs in September under the No Action Alternative.

Proposed Action

Reclamation would operate Lewiston Reservoir to target a minimum flow in the lower Klamath River at KNK of 3,200 cfs from August 15, 2012, to September 21, 2012, followed by a decrease in flow at an appropriate rate back to the normal base flow for the season assuming that daily average water temperatures are below 23° C; otherwise flows would be decreased by September 30. The 3,200 cfs flow magnitude was identified as the approximate August and September average flows during those years (since 1978) when the fall Chinook salmon run in the Klamath River was greater than the 2002 run size.

Within the time frame when the supplemental flow would occur, flows from Lewiston Reservoir would be adjusted to coincide with a planned pulse flow release from Iron Gate Dam on the Klamath River for the Yurok Tribe's Ceremony on September 2. The Klamath River pulse is designed to provide a one-day, 2,300 cfs flow at the Orleans gage, and the Lewiston Reservoir releases would be adjusted and timed to result in a peak flow target of 4,400 cfs at the KNK gage. The purpose of this pulse flow in the lower Klamath River would be to further increase the water velocity and turnover rates in the parts of the river where adult salmon are holding. Given the tributary accretion forecast, up to 48 TAF of supplemental water would be needed to implement these Proposed Action preventative flows. The resulting hydrograph at the KNK gage is presented in Figure 1.

The preventative flows that would be provided to augment the flows in the lower Klamath River in late summer are expected to prevent a disease-related fish die off in 2012, and conditions will be carefully monitored during this time. In August and September there would be a number of monitoring activities implemented before and during the action to assess environmental and biological conditions in the lower Klamath River. Assessments would be used to gain knowledge regarding the ecological consequences of the actions while also informing management whether additional actions may be required to thwart a fish die-off in 2012. For example, the Yurok Tribe will sample adult Chinook

salmon and thoroughly examine them for signs of Ich infection. If a threshold number of examined adults are infected with Ich, as confirmed by the U.S. Fish and Wildlife Service's California-Nevada Fish Health Center, an immediate emergency flow release from Lewiston Reservoir would be initiated to further disrupt the life cycle of the pathogen in an attempt to prevent a catastrophic disease outbreak. Specifically, Lewiston Reservoir would be operated to double the current flow on the lower Klamath River at the KNK gage for a 7 day period (up to a maximum flow of 6,400 cfs). Up to approximately 44 TAF would be needed to implement the Proposed Action emergency response. This is designed to increase the water turn-over rate in areas where adult fish are holding, more effectively flush the infectious life form of Ich downstream into the estuary where they cannot survive, and make it more difficult for additional fish to be infected.

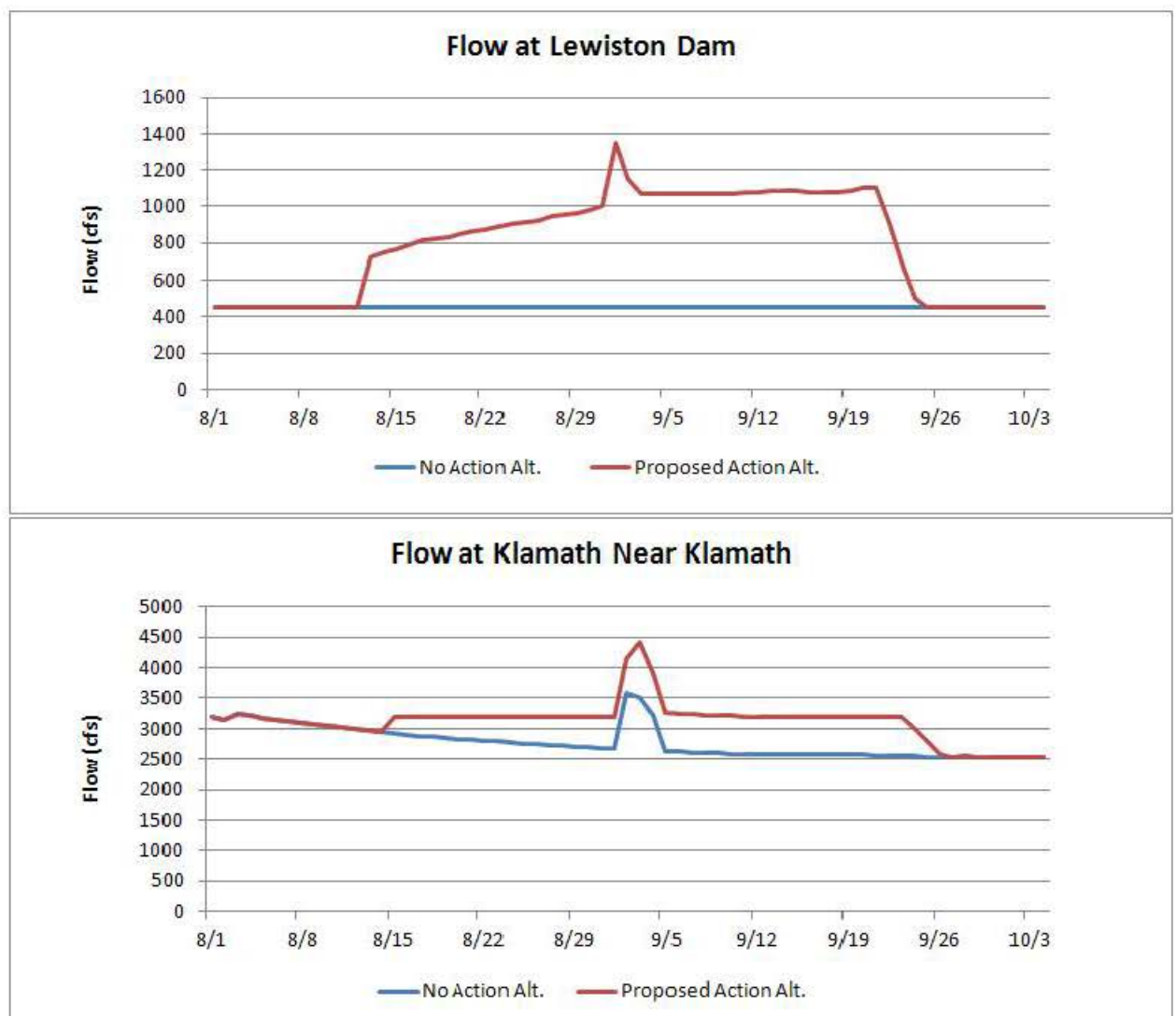


Figure 1. Approximate hydrograph for Lewiston Dam releases to result in the No Action Alternative and Proposed Action preventative flow targets in the lower

Klamath River (U.S. Geological Survey Site #11530500: Klamath River near Klamath, California) during the 2012 fall-run Chinook salmon migration period.

Alternatives Considered But Eliminated From Further Consideration

The TRRP's Flow Work Subgroup described the primary reason that supplemental flows would decrease the likelihood of an epizootic event in the lower Klamath River during the late summer. In summary, the expectation is that increased water volumes and velocities in the lower river would dilute the infective stages of Ich and reduce the overall density of adult fall-run Chinook salmon. While the Subgroup did discuss the relative effects of different water sources for flow augmentation, they did not recommend a specific source for the supplemental water (i.e., storage in the upper Klamath River Basin vs. the upper Trinity River). Reclamation considered the potential alternative sources of supplemental water for the lower Klamath River in the late summer, and the associated implications.

While the available water supplies in the Trinity River Basin increased dramatically during the spring of 2012, the water supply in the upper Klamath River did not improve nearly as much. After planning for the Klamath River flows below Iron Gate Dam consistent with the NMFS biological opinion addressing operation of Reclamation's Klamath Project, providing for the Upper Klamath Lake elevation regime consistent with the U.S Fish and Wildlife Service's biological opinion addressing endangered suckers, and providing for limited irrigation water delivery, Reclamation determined that in practical terms, supplemental water for late summer lower Klamath River flows is not available from the upper Klamath River.

Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences associated with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

Water Resources

Reclamation stores water for several purposes in Trinity and Shasta Reservoirs. These facilities and other Central Valley Project (CVP) facilities are operated in a coordinated fashion to satisfy a number of geographically diverse flood control

and environmental requirements, as well as provide water to satisfy water delivery and water rights responsibilities and to generate hydroelectric power.

Affected Environment

Trinity Reservoir is the primary water storage facility in the Trinity River Division of the CVP. Total storage capacity is 2.448 million acre feet (MAF), and the average annual inflow volume into the Reservoir is about 1.2 MAF. Of the available water stored in Trinity Reservoir, the water lower in the reservoir (the hypolimnion) is relatively cold when the reservoir is annually stratified. Cold water in Trinity and other reservoirs is an important resource to support downstream water temperature control efforts in the Trinity River, Sacramento River, and Clear Creek (tributary to the Sacramento River). A reregulation reservoir is formed by Lewiston Dam downstream of Trinity Dam. At Lewiston Dam, water is either released into the Trinity River or exported to the Sacramento River Basin via the Clear Creek tunnel. Downstream of the Clear Creek tunnel the water helps meet the multi-purpose objectives of the CVP stretching from Shasta Reservoir through the Sacramento – San Joaquin Delta down to the San Joaquin Valley.

Environmental Consequences

No Action

Under the No Action Alternative, the flow released into the Trinity River in August and September 2012 would be consistent with the flows described in the TRMFR EIS/EIR. No supplemental flows would be provided in the lower Klamath River in the late summer, and there would be no effects to water resources.

Proposed Action

Providing approximately 48 TAF of supplemental water in the lower Klamath River as a preventative measure in the late summer in 2012 would not affect water supply allocations managed as part of the Central Valley Project (CVP) in 2012, or water operations within the Central Valley. Water allocations for irrigation and municipal and industrial deliveries have already been determined for 2012, and the supplemental water would not affect the projected volume of water to be exported to the Sacramento River Basin in 2012. Additionally, with the exception of the Proposed Action augmentation, flows in the Trinity River would not be affected.

Without implementation of the Proposed Action, Trinity Reservoir storage is forecasted to be approximately 1.835 MAF (50% exceedance value) at the beginning of water year 2013, which is higher than the historical average of about 1.66 MAF. Given the planned operation of Trinity Reservoir, Carr power plant, and Lewiston Reservoir, storage in Trinity Reservoir is forecasted to be 2.012 MAF at the end of June 2013 (50% exceedance). The approximate 48 TAF for preventative use in supplementing the lower Klamath River flows in late summer 2012 is less than 3 percent of the forecasted volume present in Trinity Reservoir

at the beginning of water year 2013, and about 2 percent of the 50% exceedance forecasted volume by the end of June 2013. Forecasting filling of Trinity Reservoir in April is complicated by the possibility of safety-of-dam releases that can occur from November through March as a result of above normal precipitation patterns that could occur.

In the unlikely event that the emergency flow portion of the Proposed Action is implemented, up to 44 TAF of water in addition to the preventative supplemental flows would be released into the Trinity River. Release of this water would occur if there is evidence of an imminent disease outbreak as in 2002. As with the water volume necessary to implement the preventative supplemental flows, the volume necessary to implement the emergency flow augmentation may not be available for other purposes after 2012. Again, this is not possible to accurately predict due to the uncertainties associated with filling Trinity Reservoir in 2013.

If Trinity Reservoir fills during 2013, there would be no effects to water resources available for all potential purposes in 2013. In contrast, if Trinity Reservoir does not fill in 2013, some water volume, up to the amount released for supplemental Klamath River flows, may not be available for other potential purposes. However, this represents a small proportion of the water made available for various purposes annually, on average, from the CVP. For example, 92 TAF, the approximate volume needed to implement the preventative flows and the unlikely emergency flows, is less than 4 percent of the total CVP water service contract volumes, and less than 1 percent of the total CVP contracted volume.

Under the Proposed Action the coldwater of Trinity Reservoir would be reduced by up to 92 TAF in 2012, if both the preventative and unlikely emergency flows are implemented. This reduction would occur in 2012 but would not result in significant affects to the coldwater resource needs for the immediate year. This is because the end of water year 2012 storage volume in Trinity Reservoir is projected to be 1.835 MAF, which is well above the storage threshold of approximately 1 MAF where temperature of water released through the penstocks may be a concern for downstream use.

In 2013, the reduction in storage of up to 92 TAF due to implementation of both the preventative and unlikely emergency flows may influence the coldwater resource but is dependent upon whether the reservoir would fill. In the event the reservoir spills, or substantial safety-of-dams releases occur, there could be no effect. Otherwise, there could be some relatively minor reduction in available cold water resources that may be accountable to this action.

In 2012, recreational activities in Trinity Lake are not likely to change to any great extent due to the Proposed Action. If the preventative flows portion of the Proposed Action were implemented, the water surface elevation of Trinity Reservoir would be decreased by up to 3.5 feet relative to no action. In the unlikely event that the emergency flows portion of the Proposed Action were

implemented, the reservoir elevation would be decreased by up to an additional 3 feet. Boat ramp access to the lake is expected to remain the same as the No Action alternative. There is a small chance that some boat ramps might not be useable due to a reduced water elevation in the lake during the later part of summer of 2013 as a consequence of implementing the Proposed Action. As previously mentioned, however, the complexities and uncertainties of accurately predicting water surface elevations that far in the future are tied to variable and unpredictable precipitation patterns and therefore preclude Reclamation from providing meaningful estimates.

The significant recreational activities in the Trinity River that may be influenced by the Proposed Action include: pleasure rafting and fishing (boating), both recreational and subsistence fishing. The unlikely implementation of the emergency response provision of the Proposed Action could increase flow magnitudes up to 4,200 cfs from Lewiston Dam. This increase, although only occurring for a period of a few days, would limit recreational fishing opportunities during this time. Before and after the peak, which would only be used on an emergency basis, flows up to 1,200 cfs from Lewiston Dam would be expected to continue to provide bank and boat-based fishing as well as boating opportunities along the entire river. In addition, the greater quantity of water in the lower river would afford greater power boat access to a larger section of the Klamath River thereby expanding fishing opportunities for many.

Cumulative Impacts

There are no anticipated substantial cumulative impacts on Trinity Basin water resources related to the Proposed Action. Although there are a number of relatively small scale water diversions downstream of Lewiston Dam, no additional impacts are expected to occur compared with recent past years.

The Trinity River Division of the CVP is operated in coordination with all the other CVP and State Water Project facilities. Due to varying future water supply conditions within this large geographic area, it is not possible to meaningfully evaluate how a potential slightly lower Trinity Reservoir storage in 2013 may exacerbate system-wide supply conditions in the future. However, any such effects would be minor.

Biological Resources

Affected Environment

A variety of fish, wildlife, and plant species occur within the riparian corridor and in the Trinity River below Lewiston Dam and the in lower Klamath River. These biological resources, and the effects of various river flows, were previously described in the TRMFR EIS/EIR. The Proposed Action flow magnitudes are within the range of flows considered in the TRMFR EIS/EIR, and the preventative flows are within the range of historical flow magnitudes and timing. The primary target species expected to benefit from the Proposed Action is

Chinook salmon, while other fish, amphibians, reptiles, birds, and mammal species are not likely to be adversely affected. Therefore, the following section addressing the Environmental Consequences of the No Action Alternative and the Proposed Action will focus exclusively on Chinook salmon.

Environmental Consequences

No Action

Under the No Action Alternative, flows in the Trinity River would be within the range described in the TRMFR EIS/EIR, and the effects to the biological resources have been discussed and considered in that document. Flows in the lower Klamath River during the late summer would result from Iron Gate Dam releases consistent with the 2010 NMFS biological opinion on operation of Reclamation's Klamath Project, Klamath and Trinity River tributary accretion flow, and releases from Lewiston Dam.

As previously discussed, there is concern about the vulnerability of the expected large fall Chinook salmon in-river run in 2012 to disease, as was experienced in 2002, under implementation of the No Action Alternative. A fish die-off of the magnitude experienced in 2002 has obvious effects to the returning fish run, but also can affect the age class structure of salmon populations for a number of years.

Proposed Action

Under the Proposed Action, the susceptibility of returning adult fall Chinook salmon to diseases that led to the 2002 fish die-off would likely decrease in the lower Klamath River during the late summer in 2012. This expectation is due to increases in lower Klamath River water volumes, velocities, and turnover rates under the Proposed Action that would further inhibit the spread of Ich. While it is possible that water temperatures could be slightly decreased due to additional Trinity River flow contributions (see Zedonis 2004, 2005), the primary concept is that physically making it more difficult for the Ich life cycle to be completed will decrease disease risk. In 2003 and 2004 supplemental flows were implemented, and general observations were that the sustained higher releases from mid-August to mid-September in each year coincided with no significant disease or adult mortalities. Further, no unusual adult fish mortalities in the Klamath River upstream of the confluence of the Trinity were observed in these years. However, given the inherent uncertainties regarding events of this nature, combined with the predicted very large fish run size, it is not possible to predict with absolute certainty that the Proposed Action will preclude a fish die-off in 2012, nor is it possible to accurately quantify the reduce of disease risk attributed to the increased flows.

Cumulative Impacts

No addition cumulative impacts to biological resources beyond those described in the TRMFR EIS/EIR are anticipated.

Indian Trust Assets

Indian trust assets (ITA) are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally recognized Indian tribes. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. In some cases, ITA may be located off trust land.

Affected Environment

Indian trust assets were described and considered in the TRMFR EIS/EIR and the associated Record of Decision. Specifically relevant to the No Action Alternative and the Proposed Action considered in this Environmental Assessment are the tribal trust fisheries in the Klamath and Trinity Rivers.

Environmental Consequences

No Action

Under the No Action Alternative, any affects to ITA have been previously described in the TRMFR EIS/EIR. As previously mentioned, the inherent uncertainties of events of this nature make it difficult to accurately quantify the risk of an epizootic outbreak to the large run of returning fall Chinook salmon associated with implementation of the No Action Alternative. However, if a large scale fish die-off similar to 2002 were to occur in late summer 2012, regardless of apparent causes, it would be devastating for the tribal trust fisheries in the Klamath and Trinity Rivers.

Proposed Action

Under the Proposed Action, it is expected that the risk of disease vulnerability to the large returning run of fall Chinook salmon to the lower Klamath River in the late summer would be decreased, relative to the No Action Alternative. In turn, the risk to the tribal trust fishery would be expected to decrease. In 2003 and 2004 supplemental flows were implemented, and general observations were that the sustained higher releases from mid-August to mid-September in each year coincided with no significant disease or adult mortalities. However, as previously mentioned, the expected decrease in risk associated with the Proposed Action cannot be accurately quantified.

Cumulative Impacts

Cumulative effects to ITA from future activities are somewhat speculative. Activities of Executive Branch federal agencies that may affect ITA are carefully scrutinized regarding their affects to these assets. State and local activities that are undertaken on non-federal land are subject to associated limitations, and the resulting affects to ITA would be speculative.

Environmental Justice

Executive Order 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and lower-income populations.

Affected Environment

The Trinity and Klamath Rivers flow through rural areas. Additionally, these rivers both run through the Hoopa Valley Tribe and Yurok Tribe Reservations. Generally speaking, the Reservations' populations are generally lower-income and traditionally rely on salmon and steelhead as an important part of their subsistence.

Environmental Consequences

No Action

As previously mentioned, it is not currently possible to accurately quantify the risk of disease susceptibility to returning fall Chinook salmon in the lower Klamath River in the late summer under implementation of the No Action Alternative. However, if a large-scale fish die-off were to occur, as in 2002, it would be devastating to the Tribes and local communities.

Proposed Action

Under the Proposed Action, the large run of fall Chinook salmon returning to the lower Klamath River in the late summer would be less susceptible to a disease outbreak similar to that which ultimately caused the 2002 fish die-off. In turn, the risk to the Tribal fisheries and the associated environmental justice would be reduced. However, as previously mentioned, this expected decrease in risk cannot be accurately quantified at this time.

Cumulative Impacts

Cumulative effects of future activities on minority and low income populations are speculative. Federal agency actions are subject to scrutiny regarding their affects to these populations. However, State and local activities on non-federal lands are not necessarily subject to the same analyses. Therefore, it is speculative to determine the effects of future, non-federal activities on minority and low income populations.

Socioeconomic Resources

Affected Environment

The most potentially affected socioeconomic resources that may be affected by the No Action or Proposed Action are the commercial, recreational, and Tribal salmon and steelhead fisheries on Klamath Basin stocks and the associated

economic activities. Also, water from Trinity Reservoir is exported to the Central Valley for consumptive use, and hydroelectric power is generated.

Environmental Consequences

No Action

Under the No Action Alternative, socioeconomic resources may be similar to those that were described in the TRMFR EIS/EIR. If a fish die-off does occur in the lower Klamath River in the late summer, Tribal fisheries would likely be devastated and any fishery-related socioeconomic resources would be affected also. However, as previously mentioned, it is not possible to currently quantify the risk of fish disease susceptibility associated with the No Action Alternative.

Proposed Action

Under the Proposed Action, there would be a reduced risk of disease susceptibility to the large run of fall Chinook salmon returning to the Klamath River in the late summer. In turn, there may be less potential for adverse affects to fisheries-related socioeconomic resources. As previously mentioned, it is not currently possible to accurately quantify the expected decrease in disease susceptibility for fall Chinook salmon returning to the lower Klamath River in the late summer associated with the Proposed Action.

Depending in part on whether Trinity Reservoir completely fills in water year 2013 after the Proposed Action would be implemented, there is a possibility that some of the water volume from Trinity Reservoir used to implement the Proposed Action may not be available for other uses in the future. It would be speculative to estimate the amount of water that may be unavailable in the future. However, the amount of water needed for the preventative flows in the lower Klamath River is a small proportion of the total CVP water deliveries. Since the CVP facilities are operated in a coordinated fashion, and annual water allocations to contractors are determined by supply conditions throughout the system, it is unlikely that any allocations to individual contractors would be reduced in the future due to implementation of the Proposed Action.

Implementation of the Proposed Action will not adversely affect power generation in 2012, with the exception of a small loss of potential power generation at Trinity Dam. The expected schedule for water delivery to the Clear Creek tunnel has already been developed, and the Proposed Action would not affect these exports.

If Trinity Reservoir does not fill in water year 2013, some portion of the water that is released through Lewiston Dam to implement the Proposed Action may not be available for later release through the Lewiston power plant, Clear Creek tunnel, Carr power plant, the Spring Creek tunnel and power plant and the power plant at Keswick Dam in 2013. In turn, this may result in decreased power generation. However, this would be complex to determine and quantify, depending on the particular refill patterns at Trinity Reservoir, whether safety-of-dams releases occur at Trinity Dam in 2013, Shasta Reservoir operations, etc. In

very general terms, if 92 TAF were released to the Trinity River to implement the preventative and unlikely emergency flows under the Proposed Action, future foregone generation could be a maximum of about 110,400 megawatt hours worth in excess of \$5 million. However, power generation opportunities are subject to many restrictions and uncertainties unrelated to the Proposed Action.

Reclamation intends to assess any effects of the Proposed Action in future years in terms of water supply and power generation, and seek to identify and implement mitigation opportunities, as appropriate consistent with Reclamation authorities and available resources.

Cumulative Impacts

Cumulative impacts of future activities on socioeconomic resources are speculative. Federal agency actions are subject to scrutiny regarding their affects to these resources. State and local activities on non-federal lands are not necessarily subject to the same analyses. So it is not possible to meaningfully determine the effects of future, non-federal activities on socioeconomic resources.

Consultation and Coordination

Public Review

Reclamation previously provided several updates on the potential to release additional flows to augment flows in the lower Klamath River in late summer 2012 to the Trinity River Management Council (TMC), and the Trinity Adaptive Management Working Group (TAMWG; a Federal Advisory Committee Act-chartered committee). These groups were established by the TRMFR Record of Decision and provide a wide spectrum of local and regional representation with regard to fishery restoration topics. Specifically, in two public meetings on June 11, 2012, and June 20, 2012, Reclamation provided updates on the planning to potentially providing additional protection for the large returning Chinook salmon run in 2012. Reclamation also provided the recommendation document from the TRRP Flow Subgroup to both the TMC and TAMWG by June 11, 2012.

Reclamation announced in a July 17, 2012, press release that the draft EA and FONSI was available for review and requested comments from the public until July 27, 2012. Twenty three email comments were received that supported the Proposed Action as described in the draft EA. One hundred fifty six email comments supported the Proposed Action described in the draft EA, and also advocated for additional augmentation water to be provided from storage in the upper Klamath Basin. Reclamation also received a number of letters with more specific comments on the draft documents. Those comments are summarized in Appendix Two, along with responses to general categories of comments received.

Endangered Species Act (16 U.S.C. § 1531 et seq.)

Section 7 of the Endangered Species Act (ESA) requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

The Proposed Action would not affect any federally-listed threatened or endangered species under the jurisdiction of the U.S. Fish and Wildlife Service (Service). Therefore, there is no need to consult with the Service pursuant to the ESA.

In 2003, NOAA's National Marine Fisheries Service (NMFS) concurred with Reclamation's determination that providing supplemental flows to improve environmental conditions in the lower Klamath River was not likely to adversely affect threatened Southern Oregon/Northern California Coast coho salmon. The preventative flow magnitudes included in the Proposed Action are estimated to be less than those provided during flow augmentation in 2003. Additionally, the timing of the flow augmentation proposed in 2012 is similar to flow augmentation implemented in 2003. A NMFS biologist was intimately involved in development of the interagency, intergovernmental recommendations that formed the basis of the Proposed Action. The group also considered any effects to threatened coho salmon associated with implementation of the Proposed Action, and concluded that there may be some minor benefits related to additional available rearing habitat during this time period.

If the Proposed Action is implemented, 2012 CVP operations will still be in accordance with the NMFS 2009 biological opinion addressing the coordinated operation of the CVP and the State Water Project with respect to threatened and endangered fish in the Sacramento River. As previously stated, use of water for supplemental flows in the lower Klamath River may result in some of that water not being available for other uses in subsequent years. Some examples of potential effects to the Sacramento River Division facilities are less end of September Shasta Reservoir storage and more dependence on cold water resources from Shasta Reservoir to meet mainstem Sacramento River water temperature targets. However, there are many variables that preclude a meaningful, specific description of such effects to water availability, including the future fill schedules at Trinity Reservoir and Shasta Reservoirs, future meteorology, future CVP water allocations, water conveyance restrictions, etc. If implementation of the Proposed Action results in substantive changes to CVP operations in subsequent years that may adversely affect listed salmon and steelhead species, Reclamation will consult with NMFS as appropriate.

California Water Code (§ 1435 et seq.)

Reclamation intends to submit a Temporary Urgency Change Petition pursuant to Water Code § 1435 to add the lower Trinity and Klamath Rivers to the place of use associated with the Trinity River Division water rights permits.

References

- Belchik, M., Hillemeier, D., and Pierce, R.M. 2004. The Klamath River Fish Kill of 2002; Analysis of Contributing Factors. Yurok Tribal Fisheries Program. 42pp.
- Guillen, G. 2003. Klamath River Fish Die-off, September 2002: Causative Factors of Mortality. US Fish and Wildlife Service. Report Number AFWOF-02-03. 128pp. Foott, J.S. 2002. Pathology report. FHC Case No. 2002-139. USFWS. Anderson, California.
- Pacific Fishery Management Council (PFMC). 2012a. Preseason Report I: Stock Abundance Analysis and Environmental Assessment Part 1 for 2012 Ocean Salmon Fishery Regulations. Portland, OR. 137 pp.
- Pacific Fishery Management Council (PFMC). 2012b. Preseason Report III: Council Adopted Management Measures and Environmental Assessment Part 3 for 2012 Ocean Salmon Fishery Regulations. Portland, OR. 41 pp.
- Public Law 84-386. Trinity River Division, Central Valley Project, August 12, 1955.
- Public Law 102-575 Central Valley Project Improvement Act. 1992.
- Turek, S., Rode, M., Cox, B., Heise, G., Sinnen, W., Reese, C., Borok, S., Hampton, M., and Chun, C. 2004. September 2002 Klamath River Fish-Kill: Final Analysis of Contributing Factors and Impacts. California Department of Fish and Game. 183pp.
- U.S. District Court, Eastern District of California. 2003a. Transcript of Telephonic Hearing re: Additional Submissions, CIV-F-00-7124 OWW. Dated 5 March 2003.
- U.S. District Court, Eastern District of California. 2003b. Memorandum Decision and Order Re: Federal Defendant's Motion to Modify Injunction Re: Supplemental EIS; Defendant Hoopa Valley Tribe's Motion for Partial Stay Pending Appeal and for Modification of Injunctive Relief. Dated 4 April 2003. Issued by Oliver W. Wanger, United States District Judge.

U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, Hoopa Valley Tribe, and Trinity County. 2000. Trinity River Mainstem Fishery Restoration Environmental Impact Statement/Environmental Impact Report (EIS/EIR).

Zedonis, P. 2004. Lewiston Dam Releases and Their Influence on Water Temperatures of the Trinity and Klamath Rivers, CA, April to October, 2003. A Report to the Trinity River Restoration Program.

Zedonis, P. 2005. The Influence of Lewiston Dam Releases on Water Temperatures of the Trinity and Klamath Rivers, CA., April to October, 2004. U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office, Arcata Fisheries Technical Report Number TR2005-03, Arcata, California.

Appendix One - List of Acronyms and Abbreviations

| | |
|-------------------|--|
| cfs | Cubic feet per second |
| CVP | Central Valley Project |
| EA | Environmental Assessment |
| EIS | Environmental Impact Statement |
| EIR | Environmental Impact Report |
| ESA | Endangered Species Act |
| ITA | Indian Trust Asset |
| MAF | Million acre feet |
| National Register | National Register of Historic Places |
| NHPA | National Historic Preservation Act |
| Reclamation | Bureau of Reclamation |
| TAF | Thousand acre feet |
| TAMWG | Trinity Adaptive Management Work Group |
| TMC | Trinity Management Council |
| TRD | Trinity River Division |
| TRMFR | Trinity River Mainstem Fishery Restoration |
| TRRP | Trinity River Restoration Program |

Appendix Two – Response to Comments

The draft EA and FONSI were made available for public review on Reclamation's Mid-Pacific Region web site following a July 17, 2012, press release. Comments received were considered in developing the final EA and FONSI. A summary of commenters who provided detailed comments are shown in Table 1. Responses to general categories of comments received are shown in Table 2.

Table 1. List of commenters who provided detailed comments on the 2012 Lower Klamath River Late Summer Flow Augmentation Proposal.

| Commenter | Individual or Signatory | Agency/Affiliation |
|------------------|--------------------------------|--|
| 1 | Leonard E. Masten Jr. | Hoopa Valley Tribal Council |
| 2 | Grace Bennet | Siskiyou County Board of Supervisors |
| 3 | Barry Tippin | Redding Electric Utility |
| 4 | Paul Hauser | Trinity Public Utilities District |
| 5 | Felice Pace | Public |
| 6 | Tom Stokely | California Water Impact Network |
| 7 | Les Martin | Public |
| 8 | Garwin Yip | NOAA's National Marine Fisheries Service |
| 9 | Tim Hemstreet | PacifiCorp Energy |
| 10 | Virginia Bass | Humboldt County Board of Supervisors |
| 11 | Kelli Gant | Trinity Lake Revitalization Alliance |
| 12 | James Smith | Public |
| 13 | Brent ten Pas | Northern California Power Agency |

Table 2. Response to general categories of comments received.

| Commenter | Comment | Response |
|------------------|--|---|
| 1,5 | Supplemental flow releases should begin August 1 through the fall Chinook migration period. | The majority of biologists that developed the preventative flow augmentation regime believe the August 15 through September 21 period would encompass nearly all of the fall-run Chinook salmon migration period. |
| 1,5 | All Trinity River Division water used for flow augmentation should be accounted for in a way that assigns any future risk of shortage to water allocated | Reclamation has no plans to change water allocations to the Trinity River that are described in the ROD. |

| Commenter | Comment | Response |
|------------|---|---|
| | for diversion to the Central Valley, not to the releases allocated to the Trinity River. | |
| 1,5 | The assessment should evaluate potential flow augmentation in additional years beyond 2012. | Reclamation agrees that future years should be evaluated, but this will not be done in this Environmental Assessment. |
| 1,5,10 | The assessment should confirm the validity of the Humboldt County contract and the authority to use water under that contract for supplemental flows and other beneficial in-stream uses as well as consumptive uses. | The Commissioner of Reclamation and other Department of the Interior officials continue to discuss this issue; beyond the scope of this analysis. |
| 3,4 | Value of the hydroelectric energy generation due to flow augmentation should be fully accounted for. | The Environmental Assessment includes a “worst case scenario” regarding the amount of foregone generation, and the expected value of that generation provided by commenter has been added. |
| 4,13 | Environmental impacts of CVP power customers replacing lost energy with natural gas fired generation has negative environmental attributes. | While it is possible that there will be foregone generation due to the flow augmentation, it is difficult and speculative to meaningfully quantify any changes in environmental attributes |
| 2, 9 | Reclamation and NMFS must ensure that the Trinity River water releases do not result in fish moving into the Klamath River and its tributaries when temperature and flow conditions are marginal. | Augmentation with Trinity River water could result in slightly lower water temperatures in the lower Klamath River. However, the biologists do not expect returning fish to migrate into the Klamath River prematurely. Rather, the flow augmentation is designed to improve environmental conditions and reduce the likelihood of disease transmission. Finally, no apparent difficulties were noted during the 2003 and 2004 flow augmentation actions that utilized Trinity River Basin water. |
| 1,2,5,9,12 | Why is water not being released from storage in the upper Klamath River Basin to | Water supply conditions in the upper Klamath River Basin and environmental considerations |

| Commenter | Comment | Response |
|------------------|--|---|
| | augment flows in the lower Klamath River? | resulted in little additional water being available from the upper basin. Water supply conditions in the Trinity River Basin are better. Also, as noted above, flow augmentation actions in 2003 and 2004 did not appear to have adverse impacts to fish. |
| 6,10 | Supports the Proposed Action and FONSI | Comment noted. |
| 7 | Does not support the Proposed Action, based on “[Reclamation] tried this in 2002, with very bad results.” | Flow augmentation similar to the Proposed Action did not occur in 2002. |
| 8,13 | EA should include examples of post-2012 potential impacts of the Proposed Action on environmental conditions in the mainstem Sacramento River. | The EA does state that some volume of water used to implement the Proposed Action may not be available for other uses beyond 2012. More specific examples provided by the commenter have been added to the final EA. |
| 9 | EA should indicate that factors controlling fish disease prevalence in the Klamath River are complex, and should better explain the mechanisms involved. | Additional discussion of the Ich life cycle has been added to the final EA. |
| 10 | Request that public advisories be issued to the area media in order to inform downstream residents and recreationalists of river conditions. | Reclamation and others will take steps to inform the public of river flows during this period. |
| 11 | The EA does not contain references to published, defensible scientific studies or data showing that the proposed flow augmentation is needed. | Reclamation is not aware of any such specific studies mentioned. The post-2002 analyses of the fish die-off that are referenced in the EA do provide relevant analyses and some general recommendations. |
| 11,12 | The drop in Trinity Reservoir elevation due to the 2012 Proposed Action will likely make many boat ramps unusable. | Based on forecasted conditions and planned operation of the Trinity River Division, Reclamation does not anticipate any changes to boat ramp usability |

| Commenter | Comment | Response |
|------------------|--|---|
| | | in 2012 due to the Proposed Action. |
| 13 | There is no discussion about reimbursing other project purposes for these actions. | The EA states that Reclamation intends to assess any effects of the Proposed Action in future years in terms of water supply and power generation, and seek to identify and implement mitigation opportunities, as appropriate consistent with Reclamation authorities and available resources. |

EXHIBIT 5

RECLAMATION

Managing Water in the West

Environmental Assessment

2013 Lower Klamath River Late-Summer Flow Augmentation from Lewiston Dam

EA-13-07-NCAO



**U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region**

August 2013

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Contents

| | Page |
|--|----------|
| Section 1 Introduction | 1 |
| Background | 1 |
| Need for the Proposal..... | 1 |
| Reclamation’s Legal and Statutory Authorities and Jurisdiction Relevant to the Proposed Federal Action..... | 2 |
| Scope..... | 2 |
| Resources Eliminated from Further Analysis | 2 |
| Cultural Resources | 2 |
| Indian Sacred Sites..... | 3 |
| Floodplains, Wetlands and Waterways..... | 3 |
| Land Use | 3 |
| Air Quality | 4 |
| Resources Requiring Further Analysis | 4 |
| Section 2 Alternatives Including the Proposed Action | 4 |
| No Action Alternative..... | 5 |
| Proposed Action..... | 5 |
| Alternatives Considered But Eliminated From Further Consideration..... | 7 |
| Section 3 Affected Environment and Environmental Consequences..... | 8 |
| Water Resources | 8 |
| Affected Environment..... | 8 |
| TRD..... | 8 |
| Coldwater Resources | 9 |
| Hydropower Generation..... | 10 |
| Trinity River and Lower Klamath River..... | 10 |
| Sacramento River Basin..... | 11 |
| Environmental Consequences | 11 |
| No Action..... | 11 |
| Proposed Action..... | 11 |
| Cumulative Impacts | 13 |
| Biological Resources | 14 |
| Affected Environment..... | 14 |
| Trinity River and Lower Klamath River..... | 14 |
| Coho Salmon..... | 14 |
| Green Sturgeon | 15 |
| Chinook Salmon..... | 15 |
| Other Wildlife..... | 16 |
| Central Valley | 16 |
| Environmental Consequences | 17 |

| | |
|--|-----------|
| No Action Alternative..... | 17 |
| Trinity River and Lower Klamath River..... | 17 |
| Sacramento River Basin..... | 18 |
| Proposed Action..... | 18 |
| Trinity River and Lower Klamath River..... | 18 |
| Sacramento River Basin..... | 18 |
| Cumulative Impacts | 19 |
| Global Climate..... | 19 |
| Environmental Consequences | 20 |
| No Action Alternative..... | 20 |
| Proposed Action..... | 20 |
| Indian Trust Assets | 20 |
| Affected Environment..... | 21 |
| Environmental Consequences..... | 21 |
| No Action..... | 21 |
| Proposed Action..... | 21 |
| Cumulative Impacts | 21 |
| Environmental Justice..... | 21 |
| Affected Environment..... | 22 |
| Environmental Consequences..... | 22 |
| No Action..... | 22 |
| Proposed Action..... | 22 |
| Cumulative Impacts | 22 |
| Socioeconomic Resources | 22 |
| Affected Environment..... | 22 |
| Environmental Consequences..... | 23 |
| No Action..... | 23 |
| Proposed Action..... | 23 |
| Cumulative Impacts | 24 |
| Section 4 Consultation and Coordination..... | 24 |
| Public Review Period..... | 24 |
| Endangered Species Act (16 U.S.C. § 1531 et seq.)..... | 24 |
| Section 6 References | 26 |
| Section 7 List of Acronyms and Abbreviations..... | 28 |
| Appendix A – Response to Comments | 29 |

Section 1 Introduction

Background

In August and September 2002, an estimated 170,000 fall-run Chinook salmon returned to the Klamath River, and a substantial number of adult Chinook salmon and other salmonids died prematurely in the lower Klamath River. This included an estimated 344 coho salmon listed as threatened under the Endangered Species Act (ESA). Federal, tribal, and state biologists studying the die-off concluded that: (1) pathogens *Ichthyophthirius multifiliis* (Ich) and *Flavobacterium columnare* (Columnaris) were the primary causes of death to fish; and (2) warm water temperatures, low water velocities and volumes, high fish density, and long fish residence times likely contributed to the disease outbreaks and subsequent mortalities (Guillen 2003; Belchik et al. 2004; Turek et al. 2004). Flows in the lower Klamath averaged about 2,000 cubic feet per second (cfs) during September 2002.

In 2003, 2004, and 2012, predictions of large runs of fall-run Chinook salmon to the Klamath River Basin and drier than normal hydrologic conditions prompted Reclamation to arrange for late-summer flow augmentation to increase water volumes and velocities in the lower Klamath River to reduce the probability of a disease outbreak in those years. Thirty-eight thousand acre-feet (TAF) of supplemental water was released from Trinity Reservoir in 2003, and 36 TAF in 2004, and 39 TAF in 2012. While documentation of the effectiveness of these events is limited, general observations were that implementation of the sustained higher releases from August to early September in each year coincided with no significant disease or adult mortalities.

The 2013 preharvest forecast for the ocean abundance of Klamath Basin fall-run Chinook salmon is 727,600 and the estimated escapement of fall-run to the Klamath Basin is approximately 272,000 (PFMC 2013). This forecast is 1.6 times larger than the estimated 2002 run. Fish biologists who work in the basin are again concerned that dry hydrologic conditions in the basin, and the above average expected run size, could be conducive to a disease problem similar to the one experienced in 2002.

Need for the Proposal

The need for the proposal is to reduce the likelihood, and potentially reduce the severity, of any Ich epizootic event that could lead to an associated fish die-off in 2013. Agency reports regarding the 2002 die-off identified crowded holding

conditions for pre-spawn adults, warm water temperatures, and presence of disease pathogens (i.e., Ich and Columnaris) as the likely major factors contributing to the adult mortalities.

The biological consequences of large-scale fish die-offs could substantially impact present efforts to restore the Klamath Basin anadromous fish communities and the many user groups that rely upon the fishery. Reductions in the Klamath and Trinity River fish populations would affect tribal fishery harvest opportunities, ocean harvest levels, recreational fishing, as well as public perception and recovery mandates. Loss of 3 year-old fish and a potential loss of 4 year-old fish from the a given brood year can affect the population structure and may impede recovery goals as identified in the Central Valley Project Improvement Act of 1992 (P.L. 102-575), for naturally produced fall-run Chinook salmon.

Reclamation's Legal and Statutory Authorities and Jurisdiction Relevant to the Proposed Federal Action

The TRD Central Valley Project Act of 1955 (P.L.84-386) provides the principal authorization for implementing the Proposed Action. Specifically, Section 2 of the Act limits the integration of the Trinity River Division with the rest of the Central Valley Project and gives precedence to in-basin needs, including that “the Secretary is authorized and directed to adopt appropriate measures to insure preservation and propagation of fish and wildlife...”

Scope

Implementation of the Proposed Action would be limited to late summer 2013. The area of potential affect includes Trinity Reservoir and the Trinity River from Lewiston Dam to the confluence with the Klamath River and the Klamath to the Klamath River estuary near Klamath, California. Additionally, the affected environment includes the Sacramento River Basin as transbasin diversions from Trinity Reservoir via Lewiston Reservoir to the Sacramento River Basin occur routinely through the summer.

Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment of the Proposed Action and the No Action Alternative and has determined that there is no potential for direct, indirect, or cumulative effects to the following resources:

Cultural Resources

Reclamation uses the National Historic Preservation Act of 1966 (16 U.S.C. 470) Section 106 process to consider the effect to historic properties relating to a

Federal action or “undertaking” as outlined in the Section 106 implementing regulations at 36 CFR §800.

There would be no impacts to cultural resources under the No Action Alternative as conditions would remain the same as existing conditions. The Proposed Action involves the release of flows from Lewiston Dam on the Trinity River to augment flows in the lower Klamath River. This action would use existing infrastructure and no new construction or ground disturbance would occur as part of the Proposed Action. The release of flows from Lewiston Dam would be within the normal release flow range and water levels along the Trinity River and would not exceed the historic range of flows in the Trinity River. As a result, Reclamation has determined that the Proposed Action has no potential to cause effects to cultural resources eligible for inclusion in or listing on the National Register pursuant to 36 CFR §800.3(a)(1).

Indian Sacred Sites

Reclamation is required by Executive Order 13007, to the extent practicable permitted by law, and not clearly inconsistent with essential agency functions, to: (1) accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners; and (2) avoid adversely affecting the physical integrity of such sacred sites. When appropriate, Reclamation shall, to the greatest extent possible, maintain the confidentiality of sacred sites.

There would be no impacts to Indian sacred sites under the No Action Alternative as conditions would remain the same as existing conditions. Similarly, the Proposed Action would not inhibit access to or ceremonial use of an Indian Sacred Site, nor would the Proposed Action adversely affect the physical integrity of such sacred sites.

Floodplains, Wetlands and Waterways

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands.

There would be no impacts to flood plains under the No Action Alternative as conditions would remain the same as existing conditions. The Proposed Action does not involve construction, dredging or other modification of regulated water features. No permits under the Clean Water Act (CWA; 33 U.S.C. 1251) would be needed. Further, the Proposed Action only includes providing controlled reservoir releases that are within the normal operational envelope.

Land Use

There would be no impacts to land use under the No Action Alternative as conditions would remain the same as existing conditions. Under the Proposed Action, there would be no changes in land use due to implementation of the Proposed Action. The proposed water releases from Lewiston Dam are within the historic range of flows addressed in the Trinity River Mainstem Fishery

Restoration Environmental Impact Statement/Environmental Impact Report (TRMFR EIS/EIR; U.S. Fish and Wildlife Service et al. 2000). In addition, the magnitude and timing of the target flows in the lower Klamath River are well within the range of historic flows resulting from rainstorms, etc. Therefore, no changes in land use near the rivers will be required as a consequence of the Proposed Action.

Air Quality

Section 176 (C) of the Clean Air Act (CAA; 42 U.S.C. 7506 [C]) requires any entity of the Federal Government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal CAA (42 U.S.C. 7401 [a]) before the action is otherwise approved.

There would be no impacts to air quality under the No Action Alternative as conditions would remain the same as existing conditions. Under the Proposed Action, no impacts to air quality would be expected. To the extent there may be such impacts, those would be speculative and need not be analyzed.

As there would be no impact to the resources listed above resulting from the Proposed Action or the No Action Alternative, they will not be considered further.

Resources Requiring Further Analysis

This EA will analyze the affected environment of the Proposed Action and No Action Alternative in order to determine the potential direct, indirect, and cumulative effects to the following resources:

- Water Resources
- Biological Resources
- Indian Trusts Assets
- Environmental Justice
- Socioeconomic Resources

Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

No Action Alternative

Under the No Action Alternative, late-summer releases from Lewiston Dam would remain at 450 cubic feet per second (cfs), as prescribed in the Record of Decision for the TRMFR EIS/EIR (U.S. Fish and Wildlife Service [Service] et al. 2000). Flow releases at Iron Gate Dam on the Klamath River would be consistent with the 2013 National Marine Fisheries Service (NMFS) and Service's biological opinion addressing operation of Reclamation's Klamath Project, about 900 cfs in August and about 1,000 cfs in September. In addition, Reclamation is expected to provide a short-term increase in Lewiston Dam releases to provide for the Hoopa Valley Tribe's Boat Dance Ceremony (Ceremony) as is customary in odd numbered years. In 2013, the Ceremony will occur on August 27th, necessitating the peak flow of 2,650 cfs from Lewiston to occur one day prior to the event to account for travel time from the dam to the ceremonial site. Flow adjustments (also called ramping rates) from the base flow of 450 cfs to the peak and down from the peak to 450 cfs will follow contemporary approved rates of change to minimize public and environmental concerns. In total, the implementation of the ceremonial flow, above the base flow of 450 cfs, will result in a 5-day span of increased flow accounting for approximately 11,000 AF.

Under the No Action Alternative the estimated flows in the lower Klamath River (U.S. Geological Survey Site #11530500; Klamath near Klamath gage [KNK]), and scheduled releases from Lewiston Dam are shown in Figure 1. Forecasted flows at the KNK gage would average about 2,060 cfs in the second half of August and about 2,080 cfs in September under the No Action Alternative (not including the Ceremony pulse flow from Lewiston Dam).

Diversion of water from the Trinity River Basin to the Sacramento River Basin would continue as scheduled; currently transferring 157 TAF in August 2013 is planned and 92 TAF in September.

Proposed Action

Reclamation would operate Trinity and Lewiston Reservoirs to target a minimum flow of 2,800 cfs in the lower Klamath River (USGS Station KNK) between August 15 and September 21, 2013, hereafter referred to as the Action Period. Flow augmentation would use up to 62,000 AF of water stored in Trinity Reservoir. However, augmentation of flow would be subject to the following environmental and biological conditions, which are to be informed by active monitoring programs that can alter the timing and duration of flow augmentation. Details of the conditions follow:

- 1) Flow augmentation to meet the 2,800 cfs target at KNK would commence August 15th but would not interfere with timing or magnitude of the

scheduled Hoopa Valley Tribe's Ceremony flows scheduled to occur in late August (See Figure 1).

- 2) Flow augmentation to meet the 2,800 cfs target at KNK would continue through September 21, and possibly through September 30 if average daily water temperatures are projected to be above 23 C at KNK, or the presence of observed fish behavior of concern (see Strange 2010). Daily evaluations would be made to determine whether augmentation flows would continue and for how long between September 21 and 30.
- 3) Monitoring would also be used to gain knowledge regarding the ecological consequences of the actions while also informing management whether additional actions may be required to thwart a fish die-off in 2013. For example, the Yurok Tribe will sample adult Chinook salmon and thoroughly examine them for signs of Ich infection. In the very unlikely and emergency situation that a threshold number of examined adults are infected with Ich, as confirmed by the Service's California-Nevada Fish Health Center, an immediate emergency flow release from Lewiston Reservoir would be initiated to further disrupt the life cycle of the pathogen in an attempt to prevent a catastrophic disease outbreak. Specifically, Lewiston Reservoir would be operated to double the current flow on the lower Klamath River at the KNK gage for a 7-day period (up to a maximum flow of 5,600 cfs). Up to approximately 39 TAF would be needed to implement the emergency response. This is designed to increase the water turnover rate in areas where adult fish are holding, more effectively flush the infectious life form of Ich downstream into the estuary where they cannot survive, and make it more difficult for additional fish to be infected.
- 4) Ramping rates from Lewiston Dam would follow contemporary approved rates of change to minimize public and other environmental concerns.

Given the current tributary accretion forecast, up to 62 TAF of supplemental water would be needed to implement the Proposed Action (not including the Ceremony pulse flow volume and assuming water temperatures remain below 23 C). The actual volume of water needed to implement the Proposed Action would depend on actual Klamath Basin accretions during that time period. The resulting hydrograph at the KNK gage is presented in Figure 1.

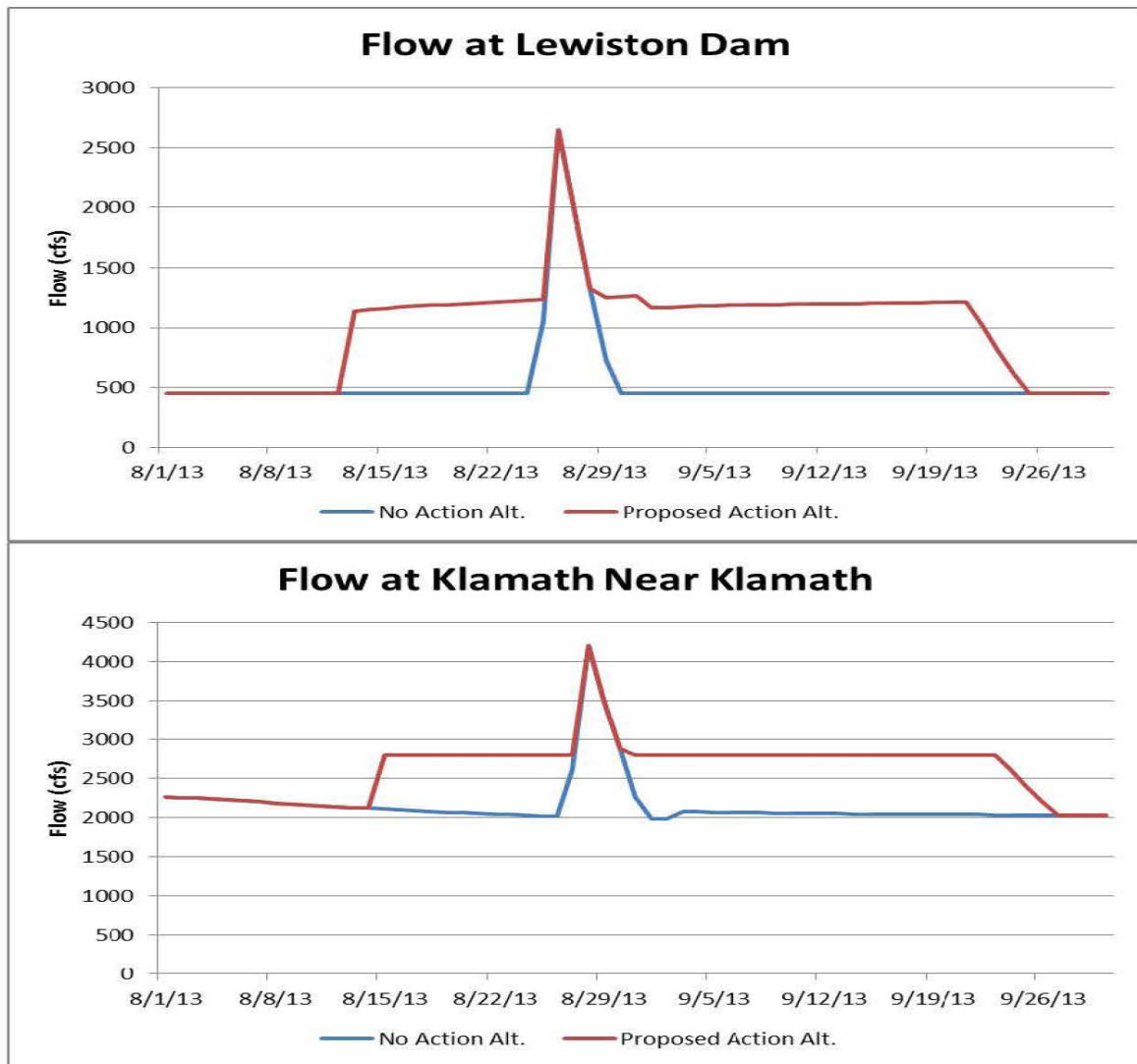


Figure 1. Approximate hydrograph for Lewiston Dam releases to result in the No Action Alternative and Proposed Action preventative flow targets in the lower Klamath River (U.S. Geological Survey Site #11530500: Klamath River near Klamath, California) during the 2013 fall-run Chinook salmon migration period.

Alternatives Considered But Eliminated From Further Consideration

The Trinity River Restoration Program (TRRP) Flow Work Group, Fall Flow Subgroup, detailed in their 2012 recommendations the primary reason that supplemental flows would decrease the likelihood of an epizootic event in the lower Klamath River during the late summer. In summary, the expectation is that increased water volumes and velocities in the lower river would dilute the infective stages of Ich and reduce the overall density of adult fall-run Chinook salmon. Accordingly, the Subgroup did not recommend a specific source for the

supplemental water (i.e., storage in the upper Klamath River Basin vs. the upper Trinity River). Reclamation considered the potential alternative sources of supplemental water for the lower Klamath River in the late summer.

The 2013 water supply conditions in the upper Klamath Basin and in the Trinity River Basin have deteriorated throughout the year. After planning for the Klamath River flows below Iron Gate Dam, and Upper Klamath Lake elevation management, consistent with the NMFS and Service's biological opinion addressing operation of Reclamation's Klamath Project, and providing for limited irrigation water delivery, Reclamation determined that in practical terms, supplemental water for late summer lower Klamath River flows is not available from the upper Klamath River.

Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences associated with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

Water Resources

Reclamation stores water for several purposes in Trinity and Shasta Reservoirs. These facilities and other Central Valley Project (CVP) facilities are operated in a coordinated fashion to satisfy a number of geographically diverse flood control and environmental requirements, as well as provide water to satisfy water delivery and water rights responsibilities and to generate hydroelectric power.

Affected Environment

TRD

Trinity Reservoir is the primary water storage facility in the TRD of the CVP (Figure 2). At capacity, it stores 2.448 million acre-feet (MAF), and receives an average annual inflow volume of about 1.2 MAF. Water released from Trinity Reservoir flows to Lewiston Reservoir, a reregulating reservoir, formed by Lewiston Dam. From Lewiston Reservoir, water can be diverted for use in the Sacramento River Basin via the Clear Creek Tunnel, or pass through Lewiston Dam to flow 112 miles to the Klamath River, which then flows approximately 43 miles before entering the Pacific Ocean. The Trinity River Hatchery, located at the base of Lewiston Dam, also diverts a small quantity of water in support of fish hatchery operations.

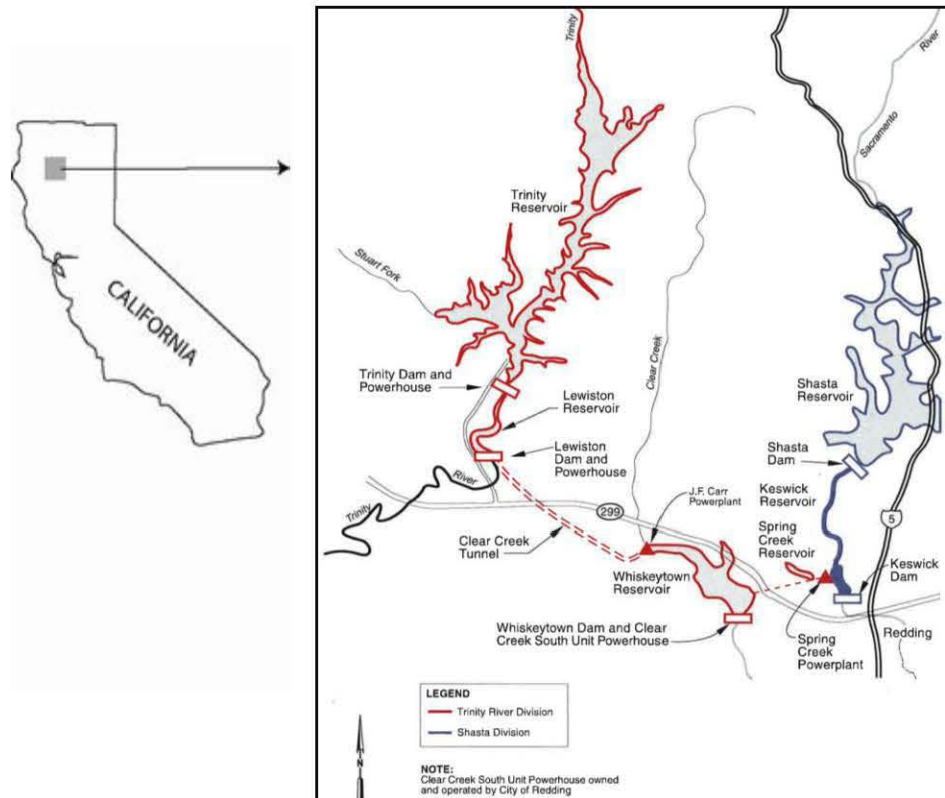


Figure 2. TRD of the Central Valley Project.

Water flowing through the 10.7-mile Clear Creek Tunnel enters the Judge Francis Carr Powerhouse and into Whiskeytown Reservoir, which also serves as a reregulating reservoir. Water stored in this reservoir is released through Whiskeytown Dam where it serves to meet environmental requirements in Clear Creek, to generate hydropower by Redding Electric Utility, and provide water for downstream irrigation, municipal and industrial (M&I) needs. Alternatively, water from Whiskeytown Reservoir can also be diverted through Spring Creek Tunnel to Spring Creek Powerplant to Spring Creek and then into Keswick Reservoir. In Keswick Reservoir, Trinity River water is combined with Shasta Reservoir water and discharged through the Keswick Powerplant to the Sacramento River (Figure 2).

Coldwater Resources

Trinity Reservoir storage is important for providing the cold water needs of the Trinity River, and Clear Creek and Sacramento River in the Sacramento River Basin. These needs include meeting certain temperature requirements in both systems, which rely to a certain degree on transbasin diversions to continually reduce the residence time for warming of both Lewiston and Whiskeytown Reservoirs to assure suitably cold water remain available for release to each of these waterways. The TRMFR EIS/EIR conducted assessments of the impact of projected temporal use of Trinity Reservoir storage by both basins with a condition of end of September carryover storage at 600 TAF. The study

concluded that water temperature objectives could be met a high percentage of the time, but only by withdrawing water from Trinity Reservoir through the auxiliary outlet (~100' lower than the Trinity Powerplant intake), which bypasses the powerplant.

The TRMFR EIS also reviewed historic accounts when the auxiliary outlet works was used to meet cold water resource needs (TRMFR EIS, Appendix A, page 427). In this review, the auxiliary outlet was used in 1991, 1992, and 1994 when storage was at 852 TAF, 1,008 TAF, and 1,200 TAF, respectively. In 2009, the need to use the auxiliary outlet occurred in the early fall. During this time, Trinity Reservoir storage was approximately 925 TAF.

In 2013, the September through November forecast storage volumes are 1,362, 1,243, and 1,221 TAF (Appendix A). Historically, temperatures concerns are ameliorated by November as ambient conditions typically result in mixing of the reservoir.

Hydropower Generation

The TRD has the capacity to generate substantial hydroelectric power per acre foot of water diverted because the water surface elevation difference between Trinity Reservoir and Keswick Reservoir is captured almost entirely as power head in closed conduits. In addition to generating power at Trinity and Lewiston Dams in the Trinity Basin, hydropower is also generated at Judge Francis Carr and Spring Creek Powerplants, then at Keswick Powerplant (part of the Sacramento River Division. In total, operations of the TRD alone can account for as much as 30 percent of the total power generation capability of the CVP (TRMFR EIS).

Power generation at Trinity Dam is dependent upon storage as well as downstream needs for cold water (see above section). When the storage gets low enough to entrain water of an unsuitable temperature into the powerplant, Reclamation must switch to use of the auxiliary outlet.

Trinity River and Lower Klamath River

In addition to generating hydropower at Trinity and Lewiston Reservoirs, Trinity Reservoir water is important for meeting a variety of other needs in the Trinity and Klamath Rivers. In the Trinity River, water is used year-round as prescribed by the TRMFR EIS/EIR Record of Decision, as part of the mandates of the TRRP. Releases from the deep portions of the reservoir assure release of suitably cold water throughout the year in support of TRRP goals. Other in-basin uses include supplementing Lewiston Dam releases in the late summer in odd years to support the ceremonial needs of the Hoopa Valley Tribe, which typically requires up to 11,000 AF to achieve the necessary flow levels in the lower Trinity River in support of the event. Another more contemporary in-basin need of this water includes occasionally augmenting flows in the lower Klamath River in certain years (i.e. 2003, 2004, and 2012) where risk of a potential die-off of adult salmon could occur during late summer. Supplemental flows used during these years

were proactive scheduled quantities that ranged up to 39,000 AF. The Trinity River Division is also operated to achieve the temperature objectives included in the North Coast Regional Water Quality Control Board, January 2007, Water Quality Control Plan for the North Coast Region.

Sacramento River Basin

In addition to generating hydropower at several powerplants, Trinity Reservoir water released from Keswick Dam is used to support environmental, irrigation, and M&I needs of the Sacramento River Valley, extending through the Sacramento – San Joaquin Delta. Relative to environmental conditions, the cold water that is diverted via the Clear Creek Tunnel is important for meeting the water temperature requirements in Clear Creek, assisting in meeting the water temperature requirements in the mainstem Sacramento River below Keswick Dam, and managing the cold water pool behind Shasta Dam. The period of greatest temperature reduction need in the Sacramento River Basin occurs during the warmer months when irrigation and M&I demands are highest and water temperature concerns of the mainstem Sacramento River exist for several fish species listed under the ESA.

In 2013, the Shasta Reservoir September through November forecast storage volumes are 1,718, 1,681, and 1,639 TAF. Historically, temperatures concerns are ameliorated by November as ambient conditions typically result in mixing of the reservoir.

Environmental Consequences

No Action

Under the No Action Alternative, the flow released from Lewiston Dam into the Trinity River in August and September 2013 would be maintained at 450 cfs, consistent with the flows described in the TRMFR EIS/EIR, in addition to a short term pulse flow (2,650 cfs) from Lewiston Dam to support a 1-day ceremonial need of the Hoopa Valley Tribe (see Figure 1). These flows are consistent with the existing condition; therefore, there would be no new effects to cold water resources, hydropower generation, or water resources for use in the Klamath River or Sacramento River Basins.

Proposed Action

Using the June 28, 2013, tributary accretion forecast (90% exceedance), and assuming Iron Gate Dam releases of 900 cfs and 1,000 cfs in August and September, respectively, the forecasted KNK flows would be below 2,800 cfs before August 15 and supplemental releases would be needed from Lewiston Reservoir to achieve the target flow of 2,800 cfs at KNK as previously described.

Under the Proposed Action, the cold water of Trinity Reservoir would be reduced by up to 62 TAF in 2013, but would not result in significant affects to the cold

water resource needs for the immediate year. This is because the end of water year 2013 storage volume in Trinity Reservoir is projected to be 1.362 MAF, which is well above the storage threshold of approximately 1 MAF where the temperature of water released through the penstocks may be a concern for downstream use. A loss of about 62 TAF from the cold water pool could result in an increase in water temperatures at Lewiston Dam of a few tenths of a degree Fahrenheit when the flow augmentation releases are completed.

In 2014, the reduction in storage of up to 62 TAF due to implementation of augmentation flows may influence the cold water resource, but is dependent upon whether the reservoir would fill. In the event the reservoir spills, or substantial safety-of-dams releases occur, there could be no effect. Otherwise, there could be a relatively minor reduction in available cold water resources that may be accountable to this action.

Implementation of the Proposed Action will not adversely affect power generation in 2013, with the exception of a small loss of potential power generation at Trinity Dam due to reduced head. The expected schedule for water delivery to the Clear Creek Tunnel has already been developed, and the Proposed Action would not affect these exports.

If Trinity Reservoir does not fill in water year 2014, some portion of the water that is released through Lewiston Dam to implement the Proposed Action in 2013 may not be available for later release through the Clear Creek Tunnel, Carr Powerplant, the Spring Creek Tunnel and Powerplant and the powerplant at Keswick Dam in 2014. In turn, this may result in decreased power generation. However, this would be complex to determine and quantify, depending on the particular refill patterns at Trinity Reservoir, whether safety-of-dams releases occur at Trinity Dam in 2014, Shasta Reservoir operations, etc. In very general terms, if 62 TAF were released to the Trinity River to implement the preventative flows under the Proposed Action, future foregone generation could be a maximum of about 75,330 megawatt hours. However, power generation opportunities are subject to many restrictions and uncertainties unrelated to the Proposed Action.

In 2013, recreational activities in Trinity Reservoir are not likely to change to any great extent due to the Proposed Action. In the current year, boat ramp access to the lake is expected to remain the same as the No Action Alternative. In contrast, there is a small chance that some boat ramps might not be useable due to a reduced water elevation in the lake during the latter part of summer 2014. As previously mentioned, however, the complexities and uncertainties of accurately predicting water surface elevations that far in the future are tied to variable and unpredictable precipitation patterns and therefore preclude Reclamation from providing meaningful estimates.

The significant recreational activities in the Trinity River that may be influenced by the Proposed Action include pleasure rafting and fishing (boating), and

recreational fishing. Flows of about 1,200 cfs from Lewiston Dam needed to augment the lower Klamath River flow to 2,800 cfs would be expected to continue to provide bank and boat-based fishing as well as boating opportunities along the entire river. In addition, the greater quantity of water in the lower river would afford greater power boat access to a larger section of the Klamath River thereby expanding fishing opportunities for many.

Providing up to 62 TAF of supplemental water in the lower Klamath River as a preventative measure in the late summer in 2013 would not affect water supply allocations managed as part of the CVP in 2013, or water operations within the Central Valley. Water allocations for irrigation and M&I deliveries have already been determined for 2013, and the supplemental water would not affect the projected volume of water to be exported to the Sacramento River Basin in 2013. The extent that the release of up to 62 TAF affects the 2014 water supply and water allocations will depend on the water year 2014 hydrology and operational objectives. Water allocations are not likely to be affected by implementation of the proposed action.

Without implementation of the Proposed Action, Trinity Reservoir storage is forecasted to be approximately 1.362 MAF (90 percent exceedance value) at the beginning of water year 2014, which is lower than the historical average of about 1.66 MAF. Given the planned operation of Trinity Reservoir, Carr Powerplant, and Lewiston Reservoir, storage in Trinity Reservoir is forecasted to be 1.987 MAF at the end of April 2014 (50 percent exceedance). The approximately 62 TAF for preventative use in supplementing the lower Klamath River flows in late summer is about 4.5 percent of the forecasted volume present in Trinity Reservoir at the beginning of water year 2014 and about 3 percent of the 50 percent exceedance forecasted volume by the end of April 2014. Forecasting filling of Trinity Reservoir in April is complicated by the possibility of safety-of-dam releases that can occur from November through March as a result of above normal precipitation patterns that could occur. Safety-of-dam releases occurred in December 2012 and continued into early 2013.

If Trinity Reservoir fills during 2014, there would be no effects to water resources available for all potential purposes. In contrast, if Trinity Reservoir does not fill in 2014, some water volume, up to the amount released for supplemental Klamath River flows, may not be available for other potential purposes.

Cumulative Impacts

There are no anticipated substantial cumulative impacts on Trinity Basin water resources related to the Proposed Action. Although there are a number of relatively small scale water diversions downstream of Lewiston Dam, no additional impacts are expected to occur compared with recent past years.

The TRD of the CVP is operated in coordination with all the other CVP and State Water Project facilities. Due to varying future water supply conditions within this

large geographic area, it is not possible to meaningfully evaluate how a potential slightly lower Trinity Reservoir storage in 2014 may exacerbate system-wide supply conditions in the future.

Biological Resources

Affected Environment

Trinity River and Lower Klamath River

Several anadromous fish species use the lower Klamath River and the Trinity River to complete their lifecycles. The life stages of species of interest for this EA include both Federally-listed coho salmon (*Oncorhynchus kisutch*) as well as some non-listed fish, including the North American green sturgeon (*Acipenser medirostris*), spring- and fall-run Chinook salmon (*O. tshawytscha*), which have tribal, recreational and commercial value. One or more life stages of each of these species are present in the area of influence of the Proposed Action. The Pacific eulachon, while listed as threatened under the ESA, is not evaluated further because no life stages of this species would be present in freshwater during the period of effect from the Proposed Action. Greater detail on life history timing of considered species follows.

Coho Salmon

Coho salmon populations in the Klamath River Basin are severely reduced from historical levels and are listed as Federally threatened, part of the Southern Oregon/Northern California Coasts Evolutionarily Significant Unit. Life history timing for coho salmon in the Klamath River are provided in Table 1.

Table 1. Life-history timing of coho salmon in the Klamath River Basin downstream of Iron Gate Dam. Peak activity is indicated in black. (Table, and associated references, are from Stillwater Sciences, 2009)

| Life stage (citations) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Incubation | | | | | | | | | | | | |
| Emergence ^{1,2,3} | | | | | | | | | | | | |
| Rearing ⁴ | | | | | | | | | | | | |
| Juvenile redistribution ⁵ | | | | | | | | | | | | |
| Juvenile outmigration ^{6,7,8,9,10} | | | | | | | | | | | | |
| Adult migration ⁹ | | | | | | | | | | | | |
| Spawning ^{9,11} | | | | | | | | | | | | |

¹ CDFG (2000, unpubl. data, as cited in NRC 2004); ² CDFG (2001, unpubl. data, as cited in NRC 2004); ³ CDFG (2002, unpubl. data, as cited in NRC 2004); ⁴ Sandercock (1991); ⁵ T. Soto, Fisheries Biologist, Yurok Tribe, pers. comm., August 2008; ⁶ Scheiff et al. (2001); ⁷ Chesney and Yokel (2003); ⁸ T. Shaw (USFWS, unpubl. data, 2002, as cited in NRC (2004); ⁹ NRC (2004); ¹⁰ Wallace (2004); ¹¹ Maurer (2002)

Green Sturgeon

Green sturgeon in the Klamath River Basin are included in the Pacific-Northern Distinct Population Segment (DPS), which also includes coastal spawning populations from the Eel River north to the Klamath and Rogue rivers. While not listed formally under the ESA as threatened or endangered, they are presently designated as a Species of Concern (NMFS 2006). Life-history timing for the various life stages in freshwater are provided in Table 2.

Table 2. Life-history timing of green sturgeon in the Klamath River Basin downstream of Iron Gate Dam. Peak activity is indicated in black (Table, and associated references, are from Stillwater Sciences, 2009)

| Life stage | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Incubation/emergence ¹ | | | | | | | | | | | | |
| Rearing ^{1,2,3} | | | | | | | | | | | | |
| Juvenile outmigration ^{4,5,6,7,8} | | | | | | | | | | | | |
| Adult migration ^{1,2,9,10,11,12,13} | | | | | | | | | | | | |
| Spawning ^{2,3,4,13} | | | | | | | | | | | | |
| Post-spawning adult holding ¹³ | | | | | | | | | | | | |

¹ CALFED ERP (2007); ² NRC (2004); ³ FERC (2006); ⁴ Emmett et al. (1991, as cited in CALFED ERP 2007); ⁵ CH2M Hill (1985); ⁶ Hardy and Addley (2001); ⁷ Scheiff et al. (2001); ⁸ Belchik (2005, as cited in CALFED ERP 2007); ⁹ KRBFTF (1991); ¹⁰ Moyle (2002); ¹¹ PacifiCorp (2004); ¹² Van Eenennaam et al. (2006); ¹³ Benson et al. (2007)

Chinook Salmon

Chinook salmon of the Klamath River Basin are comprised of two runs or races, the spring-run that immigrates during the spring and early summer, and the fall-run that immigrates in the late summer and early fall. Adults of each race use similar habitat areas in the basin, largely separated by timing of use. Adult fall-run immigration into the Klamath River estuary and lower Klamath River can be subjected to environmental stressors that can result in premature mortality, as was documented in 2002. Greater details on life-history timing of the spring- and fall-run are provided in Tables 3 and 4.

Table 3. Life-history timing of spring-run Chinook salmon in the Klamath River Basin downstream of Iron Gate Dam. Peak activity is indicated in black. (Table, and associated references, are from Stillwater Sciences, 2009)

| Life stage | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <i>Type I</i> | | | | | | | | | | | | |
| Incubation ¹ | | | | | | | | | | | | |
| Emergence ^{1,2} | | | | | | | | | | | | |
| Rearing | | | | | | | | | | | | |
| Juvenile outmigration ¹ | | | | | | | | | | | | |
| Adult migration in mainstem ^{1,3,11} | | | | | | | | | | | | |
| Adult entrance into tributaries ^{1,11} | | | | | | | | | | | | |
| Spawning ^{7,8} | | | | | | | | | | | | |
| <i>Type II</i> | | | | | | | | | | | | |
| Rearing | | | | | | | | | | | | |
| Juvenile outmigration ^{1,9,10,11} | | | | | | | | | | | | |
| <i>Type III</i> | | | | | | | | | | | | |
| Rearing | | | | | | | | | | | | |
| Juvenile outmigration ^{1,10,11} | | | | | | | | | | | | |

¹ Olson (1996); ² West 1991; ³ Tuss et al. (1990, as cited in Olson 1996); ⁴ NAS (2004, as cited in FERC 2006); ⁵ Barnhart (1994); ⁶ NRC (2004); ⁷ Dean (1995a); ⁸ Sartori 2006a; ⁹ Sullivan (1989); ¹⁰ Dean (1994); ¹¹ Dean (1995)

Table 4. Life-history timing of fall-run Chinook salmon in the Klamath River Basin downstream of Iron Gate Dam. Peak activity is indicated in black. (Table, and associated references, are from Stillwater Sciences, 2009)

| Life stage | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <i>Type I</i> | | | | | | | | | | | | |
| Incubation | | | | | | | | | | | | |
| Emergence ¹ | | | | | | | | | | | | |
| Rearing | | | | | | | | | | | | |
| Juvenile outmigration ^{2,3,4,5} | | | | | | | | | | | | |
| Adult migration ^{6,7,8} | | | | | | | | | | | | |
| Spawning ^{9,10,11,12} | | | | | | | | | | | | |
| <i>Type II</i> | | | | | | | | | | | | |
| Rearing | | | | | | | | | | | | |
| Juvenile outmigration ^{2,13} | | | | | | | | | | | | |
| <i>Type III</i> | | | | | | | | | | | | |
| Rearing | | | | | | | | | | | | |
| Juvenile outmigration ^{2,13} | | | | | | | | | | | | |

¹ USGS (1998, as cited in NRC 2004); ² Scheiff et al. (2001); ³ Chesney 2000; ⁴ Chesney and Yokel 2003; ⁵ Voight and Gale 1998; ⁶ NAS (2004, as cited in FERC 2006); ⁷ USGS (1998, as cited in NRC 2004); ⁸ Strange (2007); ⁹ Shaw et al. (1997); ¹⁰ Magnuson (2006); ¹¹ Lau (CDFG, pers. comm., 1996, as cited in Shaw et al. 1997); ¹² Hampton (2002); ¹³ Wallace 2004

Other Wildlife

Several species of amphibians, reptiles, and birds utilize the riparian corridor of the Trinity River as well as the lower Klamath River system.

Central Valley

Several anadromous fish species of special concern use the waterways in which Trinity River water is used in the Sacramento River Valley. Species of potential concern include the following Federally-listed species: Central Valley steelhead

(*O. mykiss*), spring- and winter-run Chinook salmon, and the Southern DPS population of North American green sturgeon (*Acipenser medirostris*).

Environmental Consequences

No Action Alternative

Trinity River and Lower Klamath River

Flows in the lower Klamath River during the late summer would be reflective of flows from Iron Gate Dam releases consistent with the 2013 NMFS and Service's biological opinion on operation of Reclamation's Klamath Project, releases from Lewiston Dam, and accretions of flow from tributaries between the dams to the lower Klamath River. Under the No Action Alternative, Lewiston Dam flows would remain the same as prescribed in the TRMFR EIS/EIR, in addition to a 1-day peak release of 2,650 cfs to accommodate the Hoopa Valley Tribe's Ceremony in late August (see Figure 1).

The TRMFR flow prescription of 450 cfs during August and September would result in no effect to the biota of the river system as it would be similar to the existing condition. In contrast, the Ceremonial flow, which Reclamation also considers an existing condition, would increase flow and reduce water temperatures of the lower Klamath River during a typical time of high abundance of holding fall-run salmon in the lower Klamath River. Resultant water temperatures of the lower Trinity River would be expected to be reduced by as much as 4 C, as what occurred during the Ceremony in late August 2009 (Scheiff and Zedonis 2009). Corresponding water temperature reductions of the Klamath River immediately below the confluence would likely be 2 C with a notable, but reduced influence, extending to the estuary (Scheiff and Zedonis 2009).

Additionally, the associated ramping rates for flow changes in support of the Ceremonial flows at Lewiston Dam would remain consistent with historical patterns determined to be safe for the biota of the Trinity River or the lower Klamath River. Impacts to many of the species along the river would not be expected to be adversely affected by the Ceremony flow because most, if not all, of these species are likely advanced in development beyond the early life stages that could be more vulnerable to a change in flow/river stage during this time of the year. For example, there would no longer be yellow-legged frog egg masses on the river margins nor ground nesting birds. A potential beneficial influence of the Ceremony flow is that it may provide a stimulus for adult green sturgeon holding in the lower Trinity River and Klamath River below the confluence of the Trinity River to emigrate to the Pacific Ocean allowing improved survival.

Because the projected minimum flow of the lower Klamath River is substantially lower than what has been observed in the recent past, and the relatively large run-size projection for fall Chinook salmon, there is an increased risk for a fish die-off in the lower Klamath River in 2013, relative to the Proposed Action. While the temporary increase in flow attributable to the Ceremony flow could provide temporary relief for stressful environmental conditions in the lower Klamath

River, the duration of influence of the pulse would likely only last between 5 and 7 days, which would not be long enough to cover the entire time period of concern (or mid-August to mid-September). A fish die-off of the magnitude experienced in 2002 has obvious effects to the returning fish run, but also can affect the age class structure of salmon populations for a number of years. Also, the consequences of a fish die-off would include potentially preventing the TRRP from meeting natural fall-run Chinook salmon escapement goals.

Sacramento River Basin

The quantity and quality (i.e. water temperature) of flow would also remain suitable for transbasin diversions to Whiskeytown Reservoir, representing the source water for Clear Creek and Spring Creek diversions to Keswick Reservoir. As a consequence there would be no effect to the biota of the Sacramento River Basin. The water temperature compliance point in the mainstem Sacramento would be retained at the existing compliance point (currently Airport Road Bridge).

Proposed Action

Trinity River and Lower Klamath River

Under the Proposed Action, the susceptibility of returning adult fall Chinook salmon to diseases that led to the 2002 fish die-off would decrease in the lower Klamath River during the late summer in 2013. Modeling results suggest that during implementation of the proposed action, Lewiston Reservoir water temperatures would be about 0.5°F cooler than under a no action scenario. Additionally, it is well documented that the Trinity River and lower Klamath River would see a reduction in water temperatures. In turn, Chinook salmon may experience less physiological stress and vulnerability to disease. In 2003, 2004, and 2012, supplemental flows were implemented, and general observations were that the sustained higher releases from mid-August to mid-September in each year coincided with no significant disease or adult mortalities. However, given the inherent uncertainties regarding events of this nature, combined with the predicted large fish run size, it is not possible to predict with absolute certainty that the Proposed Action will preclude a fish die-off in 2013, nor is it possible to accurately quantify the reduced disease risk attributed to the increased flows. There may also be an increase in water temperatures in the Trinity River just subsequent to the Proposed Action. This could be as high as 0.5°F at Lewiston Dam. The timing of an increase in release temperature could coincide with a period when river temperatures are typically near the Basin Plan Objectives at Douglas City and the confluence of the North Fork Trinity River.

Sacramento River Basin

Implementation of the Proposed Action would not affect the quantity and quality (i.e. water temperature) of flow and would also remain suitable for transbasin diversions to Whiskeytown Reservoir in 2013. Modeling results suggest that during the augmentation releases at Lewiston Dam and into October, water

temperatures of releases from Whiskeytown Dam into Clear Creek would be reduced by about 0.4°F. Starting about mid-October, Whiskeytown Dam releases may potentially increase up to 0.25°F. A similar response is indicated for the Spring Creek Powerplant release. In turn, potential negative temperature impacts in the Sacramento River Basin are expected to occur after September, during the seasonal transition into expected cooler fall ambient conditions. The temperature impact in the Sacramento River at Airport Road is expected to be less than 0.1°F.

As a consequence, the influence of the Proposed Action would be similar to the No Action Alternative and there would be no substantial effects to the biota of the Sacramento River Basin in 2013.

Trinity and Shasta Reservoirs are operated in a coordinated fashion. Depending on the details of future operations and the fill pattern at both reservoirs, the Proposed Action may reduce the available cold water resources used to meet temperature objectives in the Sacramento River in 2014. Changes to the ability to achieve temperature objectives would be expected to be minor, as would the associated affects to ESA-listed salmon and steelhead.

Cumulative Impacts

No additional cumulative impacts to biological resources beyond those described in the TRMFR EIS/EIR are anticipated.

Global Climate

Climate change refers to significant change in measures of climate (e.g. temperature, precipitation, or wind) lasting for decades or longer and is considered a cumulative impact. Many environmental changes can contribute to climate change (changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.) (EPA 2010). Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as CO₂, occur natural and are emitted to the atmosphere through natural processes and human activities. Between 1990 and 2009, CO₂ was the primary GHG (approximately 85 percent) produced in the U.S. due to the combustion of fossil fuels such as coal, natural gas, oil and gasoline to power cars, factories, utilities and appliances. The added gases, primarily CO₂ and CH₄, are enhancing the natural greenhouse effect and likely contributing to an increase in global average temperature and related climate change.

In 2006, the state of California issued the California Global Warming Solutions Act of 2006, widely known as Assembly Bill 32, which requires California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is further directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. In addition, the EPA has issued regulatory actions under the Federal Clean Air Act as well as other statutory authorities to address climate change issues.

Environmental Consequences

No Action Alternative

Under the No Action Alternative, hydropower generation would occur as normal at the TRD. The amount and timing would vary according to available opportunities and other water release and delivery commitments. CVP power customers would not have to change their power purchase patterns and sources more so than the status quo conditions. Additional hydrocarbon-generated electricity would not have to be purchased in lieu of sustainable sourced power more so than the status quo conditions. Therefore, there would be no additional affects to GHG emissions.

Proposed Action

While no GHG emissions would be generated by as a direct result of implementation of the Proposed Action, there may be some broader scale or theoretical effects to GHG emission levels associated with the Proposed Action.

If 62 TAF of water is released from Trinity and Lewiston Reservoirs to augment flows in the lower Klamath River, some of that volume of water may have been exported from the Trinity River at some unknown time in the future, depending on fill patterns for Trinity Reservoir and other operational decisions. In that case, hydroelectric power would have been generated at the J.F. Carr Powerplant, the Spring Creek Powerplant, and likely the Keswick Powerplant. The power generated by this volume of water would have been available for purchase by the CVP “preference” power customers as available. CVP preference power customers share the CVP energy production that is in excess of Reclamation’s water pumping needs. At any given time, CVP power customers may have to purchase power when available CVP power is not sufficient for their demands. This non-CVP power may be hydrocarbon generated. Assuming 62 TAF of water is used for flow augmentation, a maximum of 75,330 megawatt hours of power generation may be foregone at some time in the future. Assuming that power customers would have to replace all of that power with hydrocarbon generated power, an estimated additional 53,149 metric tons of CO₂ equivalent would be emitted. The magnitude and timing of the potential additional CO₂ equivalent is unknown, as are the associated effects on Global Climate. For example, it is unlikely that more than 25,000 metric tons of CO₂ equivalent would be emitted on an annual basis so it is unlikely to have a significant effect on global climate.

Indian Trust Assets

Indian trust assets (ITA) are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally recognized Indian tribes. Trust assets may include lands,

minerals, and natural resources, as well as hunting, fishing, and water rights. In some cases, ITA may be located off trust land.

Affected Environment

Indian trust assets were described and considered in the TRMFR EIS/EIR and the associated Record of Decision. Specifically relevant to the No Action Alternative and the Proposed Action considered in this EA are the tribal trust fisheries in the Klamath and Trinity Rivers.

Environmental Consequences

No Action

Under the No Action Alternative, any affects to ITA have been previously described in the TRMFR EIS/EIR. As previously mentioned, the inherent uncertainties of events of this nature make it difficult to accurately quantify the risk of an epizootic outbreak to the large run of returning fall Chinook salmon associated with implementation of the No Action Alternative. However, if a large scale fish die-off similar to 2002 were to occur in late summer 2013, regardless of apparent causes, it would be devastating for the tribal trust fisheries in the Klamath and Trinity Rivers.

Proposed Action

Under the Proposed Action, it is expected that the risk of disease vulnerability to the large returning run of fall Chinook salmon to the lower Klamath River in the late summer would be decreased, relative to the No Action Alternative. In turn, the risk to the tribal trust fishery would be expected to decrease. In 2003, 2004 and 2012, supplemental flows were implemented, and general observations were that the sustained higher releases from mid-August to mid-September in each year coincided with no significant disease or adult mortalities. However, as previously mentioned, the expected decrease in risk associated with the Proposed Action cannot be accurately quantified.

Cumulative Impacts

Cumulative effects to ITA from future activities are somewhat speculative. Activities of Executive Branch federal agencies that may affect ITA are carefully scrutinized regarding their affects to these assets. State and local activities that are undertaken on non-Federal land are subject to associated limitations, and the resulting affects to ITA would be speculative.

Environmental Justice

Executive Order 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and lower-income populations.

Affected Environment

The Trinity and Klamath Rivers flow through rural areas, including Trinity County. In general, Trinity County is a lower-income population and recreational fishing is an important source of revenue. Additionally, these rivers both run through the Hoopa Valley Tribe and Yurok Tribe Reservations. Generally speaking, the Reservations' populations are lower-income and traditionally rely on salmon and steelhead as an important part of their subsistence.

Environmental Consequences

No Action

As previously mentioned, it is not currently possible to accurately quantify the risk of disease susceptibility to returning fall Chinook salmon in the lower Klamath River in the late summer under implementation of the No Action Alternative. However, if a large-scale fish die-off were to occur, as in 2002, it would be devastating to the Tribes and local communities.

Proposed Action

Under the Proposed Action, it is likely that the large run of fall Chinook salmon returning to the lower Klamath River in the late summer would be less susceptible to a disease outbreak similar to that which ultimately caused the 2002 fish die-off. In turn, the risk to the tribal, commercial and recreational fisheries, and the associated environmental justice would be reduced. However, as previously mentioned, this expected decrease in risk cannot be accurately quantified at this time.

Cumulative Impacts

Cumulative effects of future activities on minority and low income populations are speculative. Federal agency actions are subject to scrutiny regarding their affects to these populations. However, state and local activities on non-Federal lands are not necessarily subject to the same analyses. Therefore, it is speculative to determine the effects of future, non-Federal activities on minority and low income populations.

Socioeconomic Resources

Affected Environment

The most potentially affected socioeconomic resources that may be affected by the No Action or Proposed Action are the commercial, recreational, and tribal salmon and steelhead fisheries on Klamath Basin stocks and the associated economic activities. Also, water from Trinity Reservoir is exported to the Central Valley for consumptive use, and hydroelectric power is generated.

Environmental Consequences

No Action

Under the No Action Alternative, socioeconomic resources may be similar to those that were described in the TRMFR EIS/EIR. If a fish die-off does occur in the lower Klamath River in the late summer, tribal fisheries would likely be devastated and any fishery-related socioeconomic resources would be affected also. However, as previously mentioned, it is not possible to currently quantify the risk of fish disease susceptibility associated with the No Action Alternative.

Proposed Action

Under the Proposed Action, there would be a reduced risk of disease susceptibility to the large run of fall Chinook salmon returning to the Klamath River in the late summer. In turn, there may be less potential for adverse effects to fisheries-related socioeconomic resources. As previously mentioned, it is not currently possible to accurately quantify the expected decrease in disease susceptibility for fall Chinook salmon returning to the lower Klamath River in the late summer associated with the Proposed Action.

Depending in part on whether Trinity Reservoir completely fills in water year 2014 after the Proposed Action would be implemented; there is a possibility that some of the water volume from Trinity Reservoir used to implement the Proposed Action may not be available for other uses in the future. It would be speculative to estimate the amount of water that may be unavailable in the future. However, the amount of water needed for the preventative flows in the lower Klamath River is a small proportion of the total CVP water deliveries. Since the CVP facilities are operated in a coordinated fashion, and annual water allocations to contractors are determined by supply conditions throughout the system, it is unlikely that any allocations to individual contractors would be reduced in the future due to implementation of the Proposed Action.

Implementation of the Proposed Action will not adversely affect power generation in 2013, with the exception of a small loss of potential power generation at Trinity Dam. The expected schedule for water delivery to the Clear Creek Tunnel has already been developed, and the Proposed Action would not affect these exports.

If Trinity Reservoir does not fill in water year 2014, some portion of the water that is released through Lewiston Dam to implement the Proposed Action may not be available for later release through the Clear Creek Tunnel, Carr Powerplant, the Spring Creek Tunnel and Powerplant and the powerplant at Keswick Dam at some time in the future. In turn, this may result in decreased power generation. However, this would be complex to determine and quantify, depending on the particular refill patterns at Trinity Reservoir, whether safety-of-dams releases occur at Trinity Dam in 2014, Shasta Reservoir operations, etc. In very general terms, if 62 TAF were released to the Trinity River to implement the preventative flows under the Proposed Action, future foregone generation could be a maximum of about 75,330 megawatt hours. However, power generation opportunities are

subject to many restrictions and uncertainties unrelated to the Proposed Action. Also, power production patterns are generally driven by water operations decisions. Whether power in excess of Reclamation's water pumping needs is available at a given time, and whether power available for CVP power customers is sufficient for their demands is difficult to predict. In the unlikely event that water operations are changed due to implementation of the Proposed Action, CVP power customers may have to buy power from alternative sources when CVP power would have otherwise been generated using the water that was used to implement the Proposed Action.

Cumulative Impacts

Cumulative impacts of future activities on socioeconomic resources are speculative. Federal agency actions are subject to scrutiny regarding their affects to these resources. State and local activities on non-Federal lands are not necessarily subject to the same analyses. So it is not possible to meaningfully determine the effects of future, non-Federal activities on socioeconomic resources.

Section 4 Consultation and Coordination

Public Review Period

Reclamation previously provided several updates on the potential to release additional flows to augment flows in the lower Klamath River in late summer 2013 to the Trinity River Management Council (TMC), and the Trinity Adaptive Management Working Group (TAMWG; a Federal Advisory Committee Act-chartered committee). These groups were established by the TRMFR Record of Decision and provide a wide spectrum of local and regional representation with regard to fishery restoration topics.

Reclamation provided the public an opportunity to comment on the Draft Finding of No Significant Impact and Draft EA from July 17, 2013, to the close of business on July 31, 2013. Details regarding comments received and responses to detailed comment themes are provided in Appendix A.

Endangered Species Act (16 U.S.C. § 1531 et seq.)

Section 7 of the Endangered Species Act (ESA) requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that

their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

The Proposed Action would not affect any federally listed threatened or endangered species under the jurisdiction of the Service. Therefore, there is no need to consult with the Service pursuant to the ESA.

NMFS representatives were involved in development of the recommendations that formed the basis of the Proposed Action. The group that developed the 2012 flow augmentation recommendations also considered any affects to threatened SONCC coho salmon associated with implementation, and concluded that there may be some minor benefits related to additional available rearing habitat during this time period.

Proposed operation of the TRD of the CVP was described in the 2008 Biological Assessment (BA) for the long-term operation of the CVP and State Water Project (SWP) submitted to NMFS. The NMFS issued a June 4, 2009, Biological Opinion (Opinion) addressing CVP/SWP operations as they affect listed fish and their designated critical habitats in the Central Valley. The Opinion concluded that the proposed operation of the CVP/SWP would jeopardize listed species and destroy or adversely modify designated critical habitat, and offered a Reasonable and Prudent Alternative (RPA) that, if implemented, would not jeopardize the species according to their analyses. Reclamation was also informed of NMFS's intent to issue a separate Opinion addressing SONCC coho salmon informed by the 2008 BA.

The 2009 CVP/SWP operations Opinion was subject to a number of legal challenges in the United States District Court for the Eastern District of California (Court), and Reclamation was challenged for their provisional acceptance and implementation of the RPA. On September 20, 2011, in the Consolidated Salmonid Cases, the Court remanded the Opinion to NMFS. Reclamation plans to submit a consultation package that includes a supplemental/updated BA describing proposed operation of the CVP/SWP to NMFS, to facilitate the remand of the Opinion, consistent with section 7(a)(2) of the ESA. The current schedule of the Court-ordered remand of the Opinion to NMFS calls for the new CVP/SWP operations Opinion to be issued to Reclamation by February 2017. Per the most recent court ruling, additional extensions are possible to 2018 and 2019.

The 2013 late-summer flow augmentation release will continue the status quo as to listed species in that Reclamation still retains discretion to provide flow and water temperature conditions that are consistent with currently anticipated conditions with respect to listed fish. Reclamation has determined that implementing the proposed flow augmentation action in 2013 prior to receiving the above mentioned new Opinion on CVP/SWP operations will not violate section 7(d) of the ESA, i.e., the action would not constitute an irreversible or

irretrievable commitment of resources which would have the effect of foreclosing the formulation or implementation of any RPA measures which would not violate section 7(a)(2) of the ESA.

The volume of Trinity Reservoir water used for augmentation and not available in the future for other purposes (e.g., river temperature control) will only be a “deficit” in Trinity or Shasta Reservoirs until these reservoirs fill, have significant safety-of-dam releases (at Trinity), or flood control (at Shasta). Based on historic hydrologic patterns in the Trinity and Sacramento Basins, it is likely that one or all of these things will happen before issuance of the new CVP/SWP Opinion. Therefore, the flow augmentation action in 2013 is not expected to preclude development of any RPA measures during the ongoing consultation.

Section 6 References

- Belchik, M., Hillemeier, D., and Pierce, R.M. 2004. The Klamath River Fish Kill of 2002; Analysis of Contributing Factors. Yurok Tribal Fisheries Program. 42pp.
- Environmental Protection Agency (EPA). 2010. Climate Change – Basic Information. Website: <http://www.epa.gov/climatechange/basicinfo.html>.
- Guillen, G. 2003. Klamath River Fish Die-off, September 2002: Causative Factors of Mortality. US Fish and Wildlife Service. Report Number AFWOF-02-03. 128pp. Foott, J.S. 2002. Pathology report. FHC Case No. 2002-139. USFWS. Anderson, California.
- National Marine Fisheries Service (NMFS). 2006. Endangered and threatened species; revision of species of concern list, candidate species definition, and candidate species list. Federal Register 71: 61022-61025.
- Pacific Fishery Management Council (PMFC). 2012. Preseason Report I: Stock Abundance Analysis and Environmental Assessment Part 1 for 2012 Ocean Salmon Fishery Regulations. Portland, OR. 137 pp. Available at: http://www.pcouncil.org/wp-content/uploads/Preseason_Report_I_2012.pdf
- Pacific Fishery Management Council (PMFC). 2013. Preseason Report III: Council Adopted Management Measures and Environmental Assessment Part 3 for 2013 Ocean Salmon Fishery Regulations. Portland, OR. 45 pp.
- Public Law 84-386. Trinity River Division, Central Valley Project, August 12, 1955.
- Public Law 102-575 Central Valley Project Improvement Act. 1992.

- Scheiff, T. and P. Zedonis, 2010. The Influence of Lewiston Dam Releases on Water Temperatures of the Trinity and Klamath Rivers, CA. April to October, 2009. U. S. Fish and Wildlife Service, Arcata Fish and Wildlife Office, Arcata Fisheries Data Series Report Number DS 2010-17, Arcata, California.
- Stillwater Sciences. 2009. Effects of sediment release following dam removal on the aquatic biota of the Klamath River. Technical report. Prepared by Stillwater Sciences, Arcata, California for State Coastal Conservancy, Oakland, California. January. 185 pp.
- Strange, J. 2010. Upper Thermal Limits to Migration in Adult Chinook Salmon: Evidence in the Klamath River Basin. Transactions of the American Fisheries Society 139:1091-1108.
- Turek, S., Rode, M., Cox, B., Heise, G., Sinnen, W., Reese, C., Borok, S., Hampton, M., and Chun, C. 2004. September 2002 Klamath River Fish-Kill: Final Analysis of Contributing Factors and Impacts. California Department of Fish and Game. 183pp.
- U.S. Fish and Wildlife Service, Bureau of Reclamation, Hoopa Valley Tribe, and Trinity County. 2000. Trinity River Mainstem Fishery Restoration Environmental Impact Statement/Environmental Impact Report.

Section 7 List of Acronyms and Abbreviations

| | |
|-------------------|--|
| cfs | cubic feet per second |
| CVP | Central Valley Project |
| DPS | distinct population segment |
| EA | Environmental Assessment |
| EIS | Environmental Impact Statement |
| EIR | Environmental Impact Report |
| ESA | Endangered Species Act |
| ITA | Indian Trust Asset |
| KNK | Klamath Near Klamath |
| MAF | million acre-feet |
| National Register | National Register of Historic Places |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Service |
| PMFC | Pacific Fishery Management Council |
| Reclamation | Bureau of Reclamation |
| Service | U.S. Fish and Wildlife |
| TAF | thousand acre-feet |
| TAMWG | Trinity Adaptive Management Work Group |
| TMC | Trinity Management Council |
| TRD | Trinity River Division |
| TRMFR | Trinity River Mainstem Fishery Restoration |
| TRRP | Trinity River Restoration Program |

Appendix A – Response to Comments

The draft EA and FONSI were made available for a 15-day public review on Reclamation’s Mid-Pacific Region web site following a July 17, 2013, press release. Comments received were considered in developing the final EA and FONSI.

Reclamation received:

2 emails opposing the Proposed Action
6 emails supporting the Proposed Action
1 email supporting the Proposed Action, and additional Iron Gate Dam releases
2 letters supporting the Proposed Action
94 post cards supporting the Proposed Action
An online petition with 5,998 electronic signatures

Additionally, a summary of commenters who provided detailed comments are shown in Table 1. Responses to general categories of comments received are shown in Table 2.

Table 1. List of commenters who provided detailed comments on the 2013 Lower Klamath River Late Summer Flow Augmentation Proposal.

| Commenter ID | Individual or Signatory | Agency/Affiliation |
|---------------------|-----------------------------------|---|
| 1 | Kelli Gant | Trinity Lake Revitalization Alliance, Inc. |
| 2 | Jeff Sutton | Tehama-Colusa Canal Authority |
| 3 | Tom Stokely | California Water Impact Network |
| 4 | Glen Spain | Pacific Coast Federation of Fishermen’s Associations |
| 5 | Tim Hemstreet | PacifiCorp Energy |
| 6 | Thomas P. O’Rourke | Yurok Tribe |
| 7 | Gary Hughes | Environmental Protection Information Center |
| 8 | Barry Tippin | Redding Electric Utility |
| 9 | Danielle Vigil-Masten | Hoopa Valley Tribe |
| 10 | Daniel Nelson & Thomas Birmingham | San Luis & Delta-Mendota Water Authority & Westlands Water District |

Table 2. Response to general categories of substantive comments received.

| Commenter | Comment/Response |
|-----------|---|
| 1 | <p>Comment: The DEA’s stated Need for Proposal to “restore the native Klamath Basin anadromous fish communities and the many user groups that rely upon the fishery” is misleading and biased.</p> <p>Response: The final EA states that the need for the proposal is to reduce the likelihood, and potentially reduce the severity, of any Ich epizootic event that could lead to an associated fish die-off in 2013.</p> |
| 1 | <p>Comment: The proposed supplemental flows are in violation of the 2000 Trinity River Mainstem Fishery Restoration Record of Decision.</p> <p>Response: The Proposed Action is consistent with the TRD Central Valley Project Act of 1955 (P.L.84-386) which provides the principal authorization for implementing the flow augmentation action.</p> |
| 1 | <p>Comment: The DEA and FONSI do not reference any published, defensible scientific study or data showing that the preventative release of 62 TAF is needed. The need is speculative.</p> <p>Response: Reclamation is not aware of any specific studies addressing the efficacy of a preventative release of 62 TAF. The post-2002 analyses of the fish die-off that are referenced in the EA do provide relevant analyses and some general recommendations.</p> |
| 1 | <p>Comment: The DEA and FONSI are clearly biased to the Proposed Action by using selective analysis and disregarding any proactive planning for another dry hydrologic water year in 2014.</p> <p>Response: Reclamation does not agree that the any proactive planning for another dry hydrologic water year in 2014 is disregarded.</p> |
| 1 | <p>Comment: The DEA falsely states on page 18 that the Proposed Action would “be expected to decrease water temperature in the lower Klamath River during the period of flow augmentation.”</p> <p>Response: It is well documented in reports by the U.S. Fish and Wildlife Service that water temperatures of the Klamath River are influenced by releases from Lewiston Dam. Please see the following website: http://www.fws.gov/arcata/fisheries/activities/waterQuality/trinityWQ.html</p> |
| 1 | <p>Comment: The DEA completely omits the Trinity County population from the Affected Environment discussion within the Environmental Justice review.</p> <p>Response: Comment noted; please see the Environmental Justice section of this final EA.</p> |
| 2, 10 | <p>Comment: USBR does not have the legal authority to take the Proposed Action; if additional flows are necessary for fishery purposes, the flows</p> |

| Commenter | Comment/Response |
|-----------|---|
| | <p>should be provided by the Klamath Project.</p> <p>Response: The EA states the legal authority for the Proposed Action: the TRD Central Valley Project Act of 1955 (P.L.84-386). Water supply conditions in the upper Klamath Basin and environmental considerations resulted in little additional water being available from the upper Basin.</p> |
| 1,2,7 | <p>Comment: Lack of scientific support for the Proposed Action</p> <p>Response: Reclamation reviewed and considered the best available scientific information that was specifically relevant to the stated Need for Proposal while developing the Proposed Action.</p> |
| 2 | <p>Comment: USBR fails to analyze the potential impacts associated with the lost power generation and the associated environmental costs associated with replacing that lost power, alternatives that likely would have significant air quality impacts.</p> <p>Response: The EA states that, assuming 62 TAF of water is used for flow augmentation, a maximum of 75,330 megawatt hours of power generation may be foregone at some time in the future. Also, the EA states that under the Proposed Action, no impacts to air quality would be expected. To the extent there may be such impacts, those would be speculative and need not be analyzed.</p> |
| 2 | <p>Comment: USBR fails to analyze the impacts associated with the lost water associated with this action, resulting in less water for beneficial use for municipal, industrial, agricultural, and environmental needs within the CVP service area.</p> <p>Response: The EA states that implementation of the Proposed Action will not affect 2013 water allocations. The extent that the release of up to 62 TAF for flow augmentation has any effect on the 2014 water supply and water allocations will depend on the water year 2014 hydrology and operational objectives. It is unlikely that future allocations will be affected by implementation of the Proposed Action.</p> |
| 2 | <p>Comment: USBR failed to take timely action under NEPA and provided inadequate time to review and respond to the EA/Draft FONSI.</p> <p>Response: While Reclamation was aware of the forecasted large returning fall Chinook salmon run for several months, the deterioration of the accretion forecast, and the associated expected flows in the lower Klamath River in August and September, developed throughout the spring and summer. Based on the comments received, Reclamation believes the draft EA and FONSI review period was meaningful.</p> |
| 2 | <p>Comment: USBR failed to adequately identify measures to mitigate the impacts, including the cumulative impacts associated with the 2012 release.</p> |

| Commenter | Comment/Response |
|-----------|---|
| | <p>Response: Reclamation has not identified any specific impacts to water allocations or available power available for CVP power customers as a result of the flow augmentation action in 2012.</p> |
| 2 | <p>Comment: The continued unmitigated impacts to CVP stored water associated with the Proposed Action takes on heightened sense of urgency for the CVP water users due to the current state of the hydrologic conditions.</p> <p>Response: Comment noted.</p> |
| 3, 7, 9 | <p>Comment: The Bureau should recognize Humboldt County's Right to 50,000 AF for use in the Klamath Basin.</p> <p>Response: The Commissioner of Reclamation and other Department of the Interior officials continue to evaluate this issue; additionally this is beyond the scope of this analysis.</p> |
| 3 | <p>Comment: Additional information on Safety-of-Dam releases from Trinity Reservoir in 2012 and 2013 should be included in the EA/FONSI.</p> <p>Response: Comment noted.</p> |
| 3, 8 | <p>Comment: The EA should incorporate power "gains" and "losses" as part of the Proposed Action, including the power generation at Trinity Power Plant that would result from the Proposed Action.</p> <p>Response: As stated in the EA, there would be no changes to planned 2013 CVP water operations as a result of implementation of the Proposed Action. As a result, there would be no changes to power production.</p> |
| 5 | <p>Comment: The EA should evaluate an alternative that would provide additional flow augmentation from Iron Gate Dam, in addition to releases from Trinity Dam, in response to in-river conditions that could cause disease outbreaks to occur above the confluence of the Trinity River.</p> <p>Response: Water supply conditions in the upper Klamath Basin and environmental considerations resulted in little additional water being available from the upper Basin. Further, Reclamation is not aware of any serious Ich occurrences in the Klamath River above the confluence of the Trinity River.</p> |
| 6, 9 | <p>Comment: Flow in the lower Klamath River should be 3,200 cfs instead of 2,800 cfs to assure protection of adult salmon.</p> <p>Response: Reclamation believes the 2,800 cfs target is adequate to ameliorate environmental conditions pursuant to Need for Proposal. In the event of an emergency situation of a disease epizootic event, flows in the lower Klamath River would be doubled for 7 days.</p> |
| 4, 6 | <p>Comment: Historical context and potential causative factors contributing</p> |

| Commenter | Comment/Response |
|-----------|--|
| | <p>to the 2002 lower Klamath fish kill should include a comparison of the projected 2013 run size to that of 2002, when the fish kill occurred; this year's projected run size is 1.7 times greater what returned during 2002.</p> <p>Response: The final EA incorporates language that acknowledges the forecasted 2013 run size relative to the estimated 2002 run when the catastrophic fish die-off occurred.</p> |
| 6 | <p>Comment: Need for the proposal should incorporate language reflecting that substantial mortality of ESA-listed SONCC coho salmon in 2002.</p> <p>Response: The final EA incorporates the estimated number of coho salmon listed under the ESA that died in 2002</p> |
| 6 | <p>Comments: We strongly believe that if the catch data or other indications show that fall-run Chinook salmon have entered the river earlier than August 15, the flow augmentation should begin earlier also. Furthermore, we believe that the augmentation should begin no later than August 15 regardless of whether the mainstem portion of the run has entered the river.</p> <p>Responses: Comment noted.</p> |
| 6 | <p>Comments: The environmental consequences section of the EA should include the potential consequences of a fish die-off and preventing the Trinity River Restoration Program from meeting natural fall-run escapement goals.</p> <p>Responses: The final EA incorporates this.</p> |
| 7 | <p>Comments: Consultation with U.S. Fish and Wildlife Service and the NMFS should occur in addition to the May 2013 Klamath Project Biological Opinion issued jointly by the Services.</p> <p>Responses: The Proposed Action would not affect any federally listed threatened or endangered species under the jurisdiction of the U.S. Fish and Wildlife Service. Therefore, there is no need to consult with the Service pursuant to the ESA. Regarding consultation with NMFS, please see the Consultation and Coordination section of the final EA.</p> |
| 8 | <p>Comment: Value of the hydroelectric energy generation due to flow augmentation should be fully accounted for, in particular for 2013.</p> <p>Responses: As stated in the EA, there would be no changes to planned 2013 CVP water operations as a result of implementation of the Proposed Action. As a result, Reclamation has not identified any expected changes to power production.</p> |
| 8 | <p>Comment: Reclamation has reached its own conclusions that the proposed project will not have significant impact on power sources in 2014 without adequate supporting documentation.</p> |

| Commenter | Comment/Response |
|-----------|---|
| | Response: Reclamation has not identified any expected changes to water operations or power production due to implementation of the proposed action. To the extent there may be such impacts, they would be speculative and need not be analyzed. |
| 8, 10 | Comment: Reclamation has neglected to assess any impacts of the 39 TAF potentially needed for emergency flows. Responses: Reclamation believes the probability of an Ich epizootic event occurring in 2013 is very low, and this would be an unexpected event that would occur suddenly. If this was to occur it would be considered an emergency situation. |
| 9 | Comments: The federal government has a responsibility to protect tribal fishery resources. Responses: Comment noted, and Reclamation acknowledges this responsibility. |
| 9 | Comments: Reclamation must take timely and effective action to avoid a fish kill in 2013. Responses: Reclamation believes that the Proposed Action will effectively address the Need for Proposal. |
| 9 | Comments: The EA identifies neither how the temperature criterion was chosen, nor how this threshold is to be measured, calculated. Use of a peak value would be the most risk-adverse approach. Responses: Comment noted. See Strange 2010 referenced in the final EA. |
| 9 | Comments: A long-term plan for supplemental flows is needed Responses: Comment noted. |
| 9 | Comments: The Preferred Alternative should make it clear that releases of Trinity Division water for ceremonial use by the Hoopa Valley Tribe are independent of the flow releases identified in the Preferred Alternative for fish passage. Responses: The No Action Alternative includes the ceremonial flow; by definition it would not be part of the Proposed Action. |
| 10 | Comments: The purpose and need is inadequate. Responses: Comment noted. Please see the final EA Need for Proposal |
| 10 | Comments: Additional alternatives should have been reviewed Responses: Given the current state of relevant knowledge, Reclamation did not identify alternatives other than flow augmentation to achieve the Need for Proposal. |

| Commenter | Comment/Response |
|-----------|--|
| 10 | <p>Comments: The draft EA's discussion of alternatives considered but eliminated from further consideration is inadequate, including reference to explanation why the Klamath River water or other sources were not considered, including purchase or exchanges with CVP entities.</p> <p>Responses: Water supply conditions in the upper Klamath Basin and environmental considerations resulted in little additional water being available from the upper Basin. Reclamation was unable to identify any feasible opportunities for exchanges or willing-seller water purchase opportunities.</p> |
| 10 | <p>Comments: An EIS must be prepared to comply with NEPA.</p> <p>Responses: Reclamation believes the final EA properly analyzed the potential impacts due to implementation of the Proposed Action and determined, as stated in the FONSI, that there are no expected significant effects that would require an EIS.</p> |
| 10 | <p>Comments: The Proposed Action may have a significant effect on water and power resources.</p> <p>Responses: Reclamation has not identified any expected changes to water operations or power production due to implementation of the proposed action. To the extent there may be such impacts, they would be speculative and need not be analyzed.</p> |
| 10 | <p>Comments: The Proposed Action may have a significant effect on biological resources.</p> <p>Responses: Reclamation believes that implementation of the Proposed Action would not be expected to have a significant impact on biological resources.</p> |
| 10 | <p>Comments: Proposed Action may have a significant effect on the environment with respect to climate change (overall effect to climate change not included and why insignificant).</p> <p>Responses: The GHG emissions associated with any hydrocarbon-generated replacement power is not expected to have a significant impact on global climate, as stated in the final EA.</p> |
| 10 | <p>Comments: The Draft EA fails to adequately address Environmental Justice. (Failure to include sections of the Central Valley and west side of San Joaquin Valley.)</p> <p>Responses: Reclamation has not identified any expected changes to water operations or power production due to implementation of the proposed action. Accordingly, Reclamation did not identify any Environmental Justice issues related to the Central Valley.</p> |
| 10 | <p>Comments: The Proposed Action may have significant effects within the</p> |

| Commenter | Comment/Response |
|-----------|--|
| | <p>CVP Service Area south of the Delta (indirect groundwater-related effects associated with increased pumping and salinity, land fallowing decreased crop productivity from groundwater, and socioeconomic impacts: High prices for consumers).</p> <p>Responses: Reclamation has not identified any expected changes to water operations or power production due to implementation of the proposed action. To the extent there may be any such related impacts, they would be speculative and need not be analyzed.</p> |
| 10 | <p>Comment: Air quality and land use may be significantly affected by the proposed action and require further analysis (Increase in dust and groundwater pumping and therefore emissions and land fallowing).</p> <p>Responses: Reclamation has not identified any expected changes to water operations or power production due to implementation of the proposed action. The EA states that under the Proposed Action, no related impacts to air quality would be expected. To the extent there may be such impacts, those would be speculative and need not be analyzed.</p> |
| 10 | <p>Comment: ESA consultation is required for SONCC Coho salmon in the Klamath Basin and Central Valley listed species.</p> <p>Response: Please see the Consultation and Coordination section of the final EA.</p> |

EXHIBIT 6



United States Department of the Interior

BUREAU OF RECLAMATION

Northern California Area Office
16349 Shasta Dam Boulevard
Shasta Lake, California 96019-8400

IN REPLY REFER TO:

AUG 22 2014

NC-300
ADM-1.10

MEMORANDUM

To: Central Files

From: Don Reck 
Chief, Environmental and Natural Resources Division

Subject: Endangered Species Act Section 7 Compliance for the Lower Klamath River
Late Summer Flow Augmentation from Lewiston Reservoir in 2014

The Bureau of Reclamation is proposing to augment flows in the lower Klamath River during late summer 2014 due to rapidly changing conditions on the river that affect fish health to improve environmental conditions for the returning run of fall Chinook salmon. Flows near the mouth of the Klamath River without augmentation are forecast to be similar to those that occurred in August and September 2002, when at least 34,000 adult salmonids died. Of these, an estimated 344 were coho salmon listed as threatened under the Endangered Species Act (ESA). The cause of death was a disease outbreak, and several investigations of this event concluded that low flows contributed to the cause of premature death.

The proposed action for 2014 would consist of releasing about 25,700 acre-feet of water stored in Trinity Reservoir, through Lewiston Dam, into the Trinity River. At the confluence of the Trinity and Klamath Rivers, this water would merge with Klamath River water and flow to the Pacific Ocean. The augmentation flow release would be designed to result in flows in the lower Klamath River of 2,500 cubic feet per second (cfs) between August 23 and approximately September 14, 2014.

The proposed action would affect water temperatures in the Trinity and Klamath Rivers, and potentially in Clear Creek below Whiskeytown Reservoir and the upper Sacramento River. In turn, listed fish in the Klamath Basin and the Central Valley may be affected. Modeling results suggest that, during implementation of the flow augmentation action, Lewiston Reservoir water temperatures would be about 1.0 to 1.5°F cooler than under a no action scenario because of less residence time in Lewiston Reservoir. As a result, the Trinity River and lower Klamath River would see a reduction in water temperatures. Following the augmentation releases when Trinity River flows would return to 450 cfs, water temperatures would return to those expected if no flow augmentation action were taken. While these temperature changes are expected to occur, temperature targets in the Trinity River are expected to be met.

Modeling results also suggest that during the augmentation releases at Lewiston Dam water temperatures of releases from Whiskeytown Dam into Clear Creek would be reduced by about the same amount. Cooler release temperatures would be sustained through the flow augmentation period; by about mid-October, Whiskeytown Dam release temperatures may potentially increase up to 0.1°F. A similar response is indicated for the Spring Creek Powerplant release, where inflow into Keswick Reservoir is expected to be reduced by 1.0-1.5°F during the augmentation releases, with a subsequent potential increase beginning in mid-October by about 0.1°F. Because of the relatively minor contribution of Spring Creek inflow compared to Shasta Reservoir release, the temperature impact in the upper Sacramento River is expected to be less than 0.1°F.

Depending on future meteorological and hydrologic conditions and Central Valley Project (CVP) operational objectives, some amount of water used for flow augmentation may not be available for other purposes (*e.g.*, water temperature control) in future years. Accordingly, it is appropriate to consider the effects to listed fish species and designated critical habitats in the context of ESA section 7(a)(2) consultation.

Reclamation has considered the effects of the proposed action on ESA-listed species that are under the jurisdiction of the National Marine Fisheries Service (NMFS). Specifically, species considered include Southern Oregon/Northern California Coasts (SONCC) coho salmon in the Klamath River Basin, and Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, California Central Valley steelhead, and Southern Distinct Population Segment (DPS) of North American green sturgeon.

Proposed operation of the Trinity River Division of the CVP was described in the 2008 Biological Assessment (BA) for the long-term operation of the CVP and State Water Project (SWP) submitted to NMFS. The NMFS issued a June 4, 2009, Biological Opinion (Opinion) addressing CVP/SWP operations as they affect listed anadromous fish and their designated critical habitats in the Central Valley. The Opinion concluded that the proposed operation of the CVP/SWP would jeopardize listed species and destroy or adversely modify designated critical habitat, and offered a Reasonable and Prudent Alternative (RPA) that, if implemented, would not jeopardize the species or destroy or adversely modify designated critical habitats according to their analyses. Reclamation was also informed of NMFS's intent to issue a separate biological opinion addressing SONCC coho salmon informed by the 2008 BA. To date, Reclamation has not received that biological opinion, and consultation continues.

The 2009 CVP/SWP operations Opinion was subject to a number of legal challenges in the United States District Court for the Eastern District of California (Court), and Reclamation was challenged for its provisional acceptance and implementation of the RPA. On September 20, 2011, in the Consolidated Salmonid Cases, the Court remanded the Opinion to NMFS. Reclamation plans to submit a consultation package that includes a supplemental/updated BA describing proposed operation of the CVP/SWP to NMFS, to facilitate the remand of the Opinion, consistent with section 7(a)(2) of the ESA. The current schedule of the Court-ordered remand of the Opinion calls for NMFS to issue a draft CVP/SWP operations Opinion to

Reclamation by October 1, 2016, and a final CVP/SWP operations Opinion by February 1, 2018. Per the most recent court ruling, an additional one-year extension is possible to February 2019.

The 2014 late-summer flow augmentation release will continue the status quo as to listed species in that Reclamation still retains discretion to provide flow and temperature conditions that are consistent with currently anticipated conditions with respect to the listed fish. Reclamation has determined that implementing the proposed flow augmentation action in 2014 prior to receiving the above mentioned new Opinion on CVP/SWP operations will not violate section 7(d) of the ESA, *i.e.*, the action would not constitute an irreversible or irretrievable commitment of resources which would have the effect of foreclosing the formulation or implementation of any RPA measures which would not violate section 7(a)(2) of the ESA.

The volume of Trinity Reservoir water used for augmentation and not available in the future for other purposes (*e.g.*, river temperature control) will only be a “deficit” in Trinity Reservoir until the reservoir fills, or significant Safety-of-Dam releases occur. It is likely that one or both of these things will happen before issuance of the new CVP/SWP Opinion. Thus, by extension, the flow augmentation action in 2014 is not expected to preclude development of any RPA measures during the ongoing consultation.

Reclamation also believes that the flow augmentation action in 2014 is consistent with the 2009 CVP/SWP operations Opinion RPA Action I.2.2.C. If the end of September storage in Shasta Reservoir is below 1.9 million acre-feet (MAF), this action states, among other requirements, “Starting in early October...curtail discretionary water deliveries to the extent that these do not coincide with temperature management for the species.” This action is focused on discretionary water releases into the Sacramento River, however the intent is to preserve water in Shasta Reservoir to protect the cold water pool. Due to the drought, inflows into Shasta have been extremely low, and several actions have been taken to manage Shasta storage and temperatures in the Sacramento River. In the summer of 2014, Trinity Reservoir exports to the Sacramento River Basin have been managed to conserve the cold water pool in Shasta Reservoir in anticipation that the end of September storage in Shasta will be less than 1.9 MAF. This action will not foreclose Reclamation’s ability to achieve an end of September storage of 1.9 MAF. Additionally, the proposed action will end in mid- September and is therefore consistent with RPA Action I.2.2.C.

EXHIBIT 7

1137-4

TRINITY RIVER DIVISION—CENTRAL
VALLEY PROJECT, CALIFORNIA

HEARING
BEFORE THE
SUBCOMMITTEE ON
IRRIGATION AND RECLAMATION
OF THE
COMMITTEE ON
INTERIOR AND INSULAR AFFAIRS
UNITED STATES SENATE
EIGHTY-FOURTH CONGRESS

FIRST SESSION

ON

H. R. 46⁶~~3~~

AN ACT TO AUTHORIZE THE SECRETARY OF THE INTERIOR
TO CONSTRUCT, OPERATE, AND MAINTAIN THE TRINITY
RIVER DIVISION, CENTRAL VALLEY PROJECT, CALI-
FORNIA, UNDER FEDERAL RECLAMATION LAWS

JULY 14, 1955

Printed for the use of the Committee on Interior and Insular Affairs



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON · 1955

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

JAMES E. MURRAY, Montana, *Chairman*

| | |
|---------------------------------|------------------------------|
| CLINTON P. ANDERSON, New Mexico | EUGENE D. MILLIKIN, Colorado |
| RUSSELL B. LONG, Louisiana | GEORGE W. MALONE, Nevada |
| HENRY M. JACKSON, Washington | ARTHUR V. WATKINS, Utah |
| JOSEPH C. O'MAHONEY, Wyoming | HENRY C. DWORSHAK, Idaho |
| W. KERR SCOTT, North Carolina | THOMAS H. KUCHEL, California |
| ALAN BIBLE, Nevada | FRANK A. BARRETT, Wyoming |
| RICHARD L. NEUBERGER, Oregon | BARRY GOLDWATER, Arizona |

SUBCOMMITTEE ON IRRIGATION AND RECLAMATION

CLINTON P. ANDERSON, New Mexico, *Chairman*

| | |
|------------------------------|------------------------------|
| HENRY M. JACKSON, Washington | EUGENE D. MILLIKIN, Colorado |
| JOSEPH C. O'MAHONEY, Wyoming | ARTHUR V. WATKINS, Utah |

STEWART FRENCH, *Chief Counsel and Staff Director*

RICHARD L. CALLAGHAN, *Chief Clerk*

N. D. MCSHERRY, *Assistant Chief Clerk*

CONTENTS

| | Page |
|---|--------|
| H. R. 4663..... | 1 |
| Reports: | |
| Bureau of the Budget..... | 7 |
| Department of the Interior..... | 3 |
| Statements: | |
| Aandahl, Hon. Fred G., Assistant Secretary of the Interior..... | 22 |
| Binkley, Thad C., engineer, Alameda County Water District..... | 68 |
| Carr, Laurence W., Redding, Calif., appearing on behalf of the county of Shasta, Calif., and Redding, Calif., chambers of commerce..... | 62 |
| Dexheimer, W. A., Commissioner of Reclamation..... | 39 |
| Durkee, Frank B., director of public works of the State of California..... | 53, 55 |
| Engle, Hon. Clair, a Representative in Congress from the State of California..... | 14 |
| Flehart, Hon. George, mayor of the city of Redding, Calif..... | 59 |
| Gerdes, Robert H., executive vice president and general counsel, Pacific Gas & Electric Co..... | 76 |
| Hanna, E. R., chairman, board of directors, San Benito County Water Conservation and Flood Control District, San Benito County, Calif..... | 75 |
| Henley, Albert T., Santa Clara Valley Water Conservation District..... | 68 |
| Jackman, William, president, Investors League, Inc., New York, N. Y..... | 56 |
| Knowland, Hon. William F., United States Senator from the State of California..... | 8 |
| Kuchel, Hon. Thomas H., United States Senator from the State of California..... | 9 |
| Lyons, Barrow, appearing on behalf of California Farm Research and Legislative Committee, Santa Clara, Calif..... | 65 |
| Moss, Hon. John E., a Representative in Congress from the State of California..... | 17 |
| Murray, A. W., planning engineer, Bureau of Reclamation, Sacra- mento, Calif..... | 12 |
| Regan, Hon. Edwin J., State senator of California..... | 20 |
| Sisk, Hon. B. F., a Representative in Congress from the State of California..... | 19 |
| Spencer, Clyde H., regional director, Bureau of Reclamation, Sacra- mento, Calif..... | 40 |
| Additional information: | |
| Allocation of costs of features comprising Trinity River division, Central Valley project..... | 99 |
| Annual cost of power, Trinity River division, Central Valley project, July 15, 1955..... | 100 |
| Comparison of annual equivalent benefits and costs of Trinity River division and associated features..... | 51 |
| Cost allocation and probable repayment Central Valley project exclud- ing and including Trinity River division and associated features..... | 49, 50 |
| Klamath River Basin, California-Oregon, stream flow diagram..... | 48 |
| Letters and telegrams: | |
| Anthony, Bill, councilman, city of Redding, Calif., to Hon. Thomas H. Kuchel, July 7, 1955..... | 111 |
| Butler, Jack C., manager, Redding Chamber of Commerce, Redding, Calif., to Hon. Thomas Kuchel, July 13, 1955..... | 110 |
| Camden, Alden B., secretary-treasurer, Water and Power Users Association, Santa Clara County, San Jose, Calif., to chairman, July 11, 1955..... | 109 |
| Cowden, Robert W., city manager, Redding, Calif., to Hon. Thomas H. Kuchel, July 8, 1955..... | 111 |
| Dusel, Fred and Muriel, Redding, Calif., to Hon. Thomas Kuchel, July 13, 1955..... | 113 |

Additional information—Continued

Letter and telegrams—Continued

| | Page |
|---|------|
| Fitzpatrick, John, McCalls Dairy Products Co., Redding, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 113 |
| Flehart, Hon. George C., mayor of Redding, Calif., to Hon. Thomas H. Kuchel, July 8, 1955..... | 111 |
| Forbes, M. Claire, Orland, Calif., to Hon. Thomas Kuchel, July 14, 1955..... | 110 |
| Guichard, Carey, Redding Record Searchlight, Redding, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 113 |
| Heffington, Armon, president, Californians for Trinity, Weaverville, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 112 |
| Holyfield, Herb. A., councilman, city of Redding, Calif., to Hon. Thomas H. Kuchel, July 7, 1955..... | 111 |
| Jacobson, W. C., director, Department of Agriculture, State of California, to Hon. Thomas H. Kuchel, July 11, 1955, and enclosure..... | 107 |
| Junkans, Elmer, Redding, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 112 |
| Kelly, Earl Lee, Jr., Redding, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 113 |
| Knight, Hon. Goodwin J., Governor of California, to Hon. Clinton B. Anderson, July 11, 1955..... | 16 |
| Kriegsman, Sig, Jr., Redding, Calif., to Hon. Thomas Kuchel, July 13, 1955..... | 113 |
| Leitzell, Wayne, president, Shasta Cascade Wonderland Association, Redding, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 110 |
| Lewis, Joe C., chairman, and Grace McDonald, executive secretary, California Farm Research and Legislation Committee, Santa Clara, Calif., to chairman..... | 66 |
| MacKinnond, W. H., Trinity Center, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 112 |
| Mayne, Jack, secretary, Intercounty Chambers of Commerce of Northern California, Redding, Calif., to Hon. Thomas H. Kuchel, July 14, 1955..... | 110 |
| Mendahl, C. A., chairman, Tehama County Board of Supervisors, to Hon. Thomas H. Kuchel, July 6, 1955..... | 111 |
| Morford, Clark L., Shasta Union High School teacher and Farmers Insurance agent, Redding, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 112 |
| Nystrom, William B., Redding, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 113 |
| Oxley, Weldon, Redding, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 113 |
| Patten, J. E., Shasta County water engineer, Redding, Calif., to Hon. Thomas H. Kuchel, July 8, 1955..... | 111 |
| Plummer, Frank D., Redding, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 112 |
| Redding Junior Chamber of Commerce, Redding, Calif., to Hon. Thomas H. Kuchel, July 14, 1955..... | 110 |
| Scudder, Hon. Hubert B., to chairman, July 14, 1955..... | 18 |
| Sehlmeyer, George, California State Grange, Sacramento, Calif., to Hon. Thomas H. Kuchel, July 9, 1955..... | 112 |
| Simons, W. D., deputy, Redding, Calif., to Hon. Thomas H. Kuchel, July 7, 1955..... | 111 |
| Smith, Joseph, councilman, city of Redding, Calif., to Hon. Thomas H. Kuchel, July 8, 1955..... | 111 |
| Steppling, John, publisher, Trinity Journal, Weaverville, Calif., to Hon. Thomas Kuchel, July 13, 1955..... | 110 |
| Thomas, A. A., Redding, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 112 |
| Wittner, H. W. K., chairman, Republican Central Committee, Redding, Calif., to Hon. Thomas H. Kuchel, July 13, 1955..... | 113 |
| Rate schedules of the Central Valley project..... | 29 |
| Resolutions: | |
| Assembly of the State of California..... | 106 |
| Investors League, Inc..... | 58 |
| Trinity River division, Central Valley project, California..... | 46 |
| Trinity River division, profile..... | 47 |

TRINITY RIVER DIVISION, CENTRAL VALLEY PROJECT, CALIFORNIA

THURSDAY, JULY 14, 1955

UNITED STATES SENATE
SUBCOMMITTEE ON IRRIGATION AND RECLAMATION
OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS.
Washington, D. C.

The subcommittee met, pursuant to call, at 10 a. m., in the committee room, 224 Senate Office Building. Hon. Clinton P. Anderson (chairman of the subcommittee) presiding.

Present: Senators Clinton P. Anderson, New Mexico; Eugene D. Millikin, Colorado; and Arthur V. Watkins, Utah.

Also present: Senators James E. Murray, Montana, chairman, and Alan Bible, Nevada, and Thomas H. Kuchel, California, members, committee on Interior and Insular Affairs.

Also present: Stewart French, chief counsel and staff director; Goodrich W. Lineweaver, Elmer K. Nelson, and Platt Wilson, professional staff members; and N. D. McSherry, assistant chief clerk.

Senator ANDERSON. The meeting will be in order.

This is a hearing on the Trinity River division of the Central Valley project of California, covering S. 178 and H. R. 4663, Trinity division.

We do not intend at this session to take any testimony on the San Luis unit of the West San Joaquin division, as no report from the Department was available at the time this meeting was scheduled.

We are very happy to have Senator Kuchel here today, from California, and also Congressman Engle and the other members of the California delegation.

Mr. LINEWEAVER. Mr. Chairman, Senator Knowland phoned and said it was impossible for him to be here, and he sent a statement over that he would like to have inserted in the record. His administrative assistant, Mr. Gleason, is here.

Senator ANDERSON. Very well.

We will start by putting in a copy of the bill.

Are the sections of the Senate and House bills at all comparable?

Senator KUCHEL. The House bill, Mr. Chairman, does have a number of amendments in it to which I will allude, and I am sure my colleague, Congressman Engle, will also allude to them. I would ask the Chair to consider, in these hearings, the provisions of the House bill alone.

Senator ANDERSON. The House bill alone?

Senator KUCHEL. Yes, sir.

Senator ANDERSON. Thank you. We have to know which way we are going. So we will put in H. R. 4663 and the reports from the Department and the Bureau of the Budget at this point.

(The material referred to is as follows:)

[H. R. 4663, 84th Cong., 1st sess.]

AN ACT To authorize the Secretary of the Interior to construct, operate, and maintain the Trinity River division, Central Valley project, California, under Federal reclamation laws

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, for the principal purpose of increasing the supply of water available for irrigation and other beneficial uses in the Central Valley of California, the Secretary of the Interior, acting pursuant to the Federal reclamation laws (Act of June 17, 1902, 32 Stat. 388, and Acts amendatory thereof or supplementary thereto), is authorized to construct, operate, and maintain, as an addition to and an integral part of the Central Valley project, California, the Trinity River division consisting of a major storage reservoir on the Trinity River with a capacity of two million five hundred thousand acre-feet, a conveyance system consisting of tunnels, dams, and appurtenant works to transport Trinity River water to the Sacramento River and provide, by means of storage as necessary, such control and conservation of Clear Creek flows as the Secretary determines proper to carry out the purposes of this Act, hydroelectric powerplants with a total generating capacity of approximately two hundred thirty-three thousand kilowatts, and such electric transmission facilities as may be required to deliver the output of said powerplants to other facilities of the Central Valley project and to furnish energy in Trinity County: *Provided*, That the Secretary is authorized and directed to continue to a conclusion the engineering studies and negotiations with any non-Federal agency with respect to proposals to purchase falling water and, not later than eighteen months from the date of enactment of this Act, report the results of such negotiations, including the terms of a proposed agreement, if any, that may be reached, together with his recommendations thereon, which agreement, if any, shall not become effective until approved by Congress. The works authorized to be constructed shall also include a conduit or canal extending from the most practicable point on the Sacramento River near Redding in an easterly direction to intersect with Cow Creek, with such pumping plants, regulatory reservoirs, and other appurtenant works as may be necessary to bring about maximum beneficial use of project water supplies in the area.

SEC. 2. Subject to the provisions of this Act, the operation of the Trinity River division shall be integrated and coordinated, from both a financial and an operational standpoint, with the operation of other features of the Central Valley project, as presently authorized and as may in the future be authorized by Act of Congress, in such manner as will effectuate the fullest, most beneficial, and most economic utilization of the water resources hereby made available: *Provided*, That the Secretary is authorized and directed to adopt appropriate measures to insure the preservation and propagation of fish and wildlife, including, but not limited to, the maintenance of the flow of the Trinity River below the diversion point at not less than one hundred and fifty cubic feet per second for the months July through November and the flow of Clear Creek below the diversion point at not less than fifteen cubic feet per second unless the Secretary and the California Fish and Game Commission determine and agree that lesser flows would be adequate for maintenance of fish life and propagation thereof; the Secretary shall also allocate to the preservation and propagation of fish and wildlife, as provided in the Act of August 14, 1946 (60 Stat. 1080), an appropriate share of the costs of constructing the Trinity River development and of operating and maintaining the same, such costs to be nonreimbursable: *Provided further*, That not less than 50,000 acre-feet shall be released annually from the Trinity Reservoir and made available to Humboldt County and downstream water users.

SEC. 3. The Secretary is authorized to investigate, plan, construct, operate, and maintain minimum basic facilities for access to, and for the maintenance of public health and safety and the protection of public property on, lands withdrawn or acquired for the development of the Trinity River division, to conserve the scenery and the natural, historic, and archeologic objects, and to provide for public use and enjoyment of the same and of the water areas created by these developments by such means as are consistent with their primary purposes. The Secretary is authorized to withdraw from entry or other disposition under the public land laws such public lands as are necessary for the construction, operation, and maintenance of said minimum basic facilities and for

the other purposes specified in this section and to dispose of such lands to Federal, State, and local governmental agencies by lease, transfer, exchange, or conveyance upon such terms and conditions as will best promote their development and operation in the public interest. The Secretary is further authorized to investigate the need for acquiring other lands for said purposes and to report thereon to the Committees on Interior and Insular Affairs of the Senate and House of Representatives, but no lands shall be acquired solely for any of these purposes other than access to project lands and the maintenance of public health and safety and the protection of public property thereon without further authorization by the Congress. All costs incurred pursuant to this section shall be nonreimbursable and nonreturnable.

SEC. 4. Contracts for the sale and delivery of the additional electric energy available from the Central Valley project power system as a result of the construction of the plants herein authorized and their integration with that system shall be made in accordance with preferences expressed in the Federal reclamation laws: *Provided*, That a first preference, to the extent of 25 per centum of such additional energy, shall be given, under reclamation law, to preference customers in Trinity County, California, for use in that county, who are ready, able and willing, within twelve months after notice of availability by the Secretary, to enter into contracts for the energy: *Provided further*, That Trinity County preference customers may exercise their option on the same date in each successive fifth year providing written notice of their intention to use the energy is given to the Secretary not less than eighteen months prior to said date.

SEC. 5. The Secretary is authorized to make payments, from construction appropriations, to Trinity County, California, of such additional costs of repairing, maintaining, and constructing county roads as are incurred by it during the period of actual construction of the Trinity River division and as are found by the Secretary to be properly attributable to and occasioned by said construction. The Secretary is further authorized and directed to pay to Trinity County annually an in-lieu tax payment out of the appropriations during construction and from the gross revenues of the project during operation an amount equal to the annual tax rate of the county applied to the value of the real property and improvements taken for project purposes in Trinity County, said value being determined as of the date such property and improvements are taken off the tax rolls. Payments to the public-school districts in the project area affected by construction activities shall be made pursuant to existing law.

SEC. 6. There are hereby authorized to be appropriated for construction of the Trinity River division \$225,000,000, plus or minus such amounts, if any, as may be justified by reason of ordinary fluctuations in construction costs as indicated by engineering cost indexes applicable to the type of construction involved herein, and, in addition thereto, such sums as may be required to carry out the provisions of section 5 of this Act and to operate and maintain the said development.

Passed the House of Representatives June 21, 1955.

Attest:

RALPH R. ROBERTS, *Clerk*.

(The following is same as letter to Chairman Engle, dated April 12, 1955, on H. R. 105, considered as Department's report on H. R. 4663.)

UNITED STATES DEPARTMENT OF THE INTERIOR,

OFFICE OF THE SECRETARY,

Washington, D. C., May 4, 1955.

HON. JAMES E. MURRAY,

Chairman, Committee on Interior and Insular Affairs,

United States Senate, Washington, D. C.

My DEAR SENATOR MURRAY: You have requested a report from this Department on S. 178, a bill to authorize the Secretary of the Interior to construct, operate, and maintain as additions to the Central Valley project, California, the Trinity River division and the San Luis unit of the West San Joaquin division.

As an interim response to this request, there are enclosed copies of our proposed report on the Trinity River division, Central Valley project, California, dated January 19, 1955, and of two attachments to that report entitled "Supplementary Report, Trinity River Division, Central Valley Project, California" and Addendum to Supplementary Report * * * Trinity River Division, Central Valley

Your subcommittee has before it all the factual information on the project, showing, I am confident, both its value and importance. California officials are solidly behind the effort to add the Trinity to the CVP and many local agencies, such as the Sacramento Municipal Utility District, are taking steps to help meet the State's phenomenal growth and corresponding water and power needs.

As you know, the cost of the development in dollars will be repaid to the Federal taxpayers. In addition, an important asset will be gained to help take care of the future growth problems of the West.

I do not want to burden you with unnecessary technical details, but I wish to comment on one point brought up in connection with the Trinity project. The question has been raised whether Trinity power will be sold at less than the cost of production and, thus, be subsidized by the power sold from other units the Central Valley project.

Power produced at Shasta and Keswick units of the CVP is based on construction costs of some 10 years ago when prices were some 50 percent less than present costs. Naturally, power production costs at the Shasta and Keswick units are less than comparable costs of the Trinity unit.

For integrated Federal multipurpose projects, however, it is the practice to sell project power at the average of the production cost for all units. Trinity power, theoretically, then might be sold at less than production cost while power from the other units integrated into the entire CVP system would be sold at slightly higher than actual production cost. This is a long accepted practice in Federal multipurpose projects just as it is an accepted and approved practice for private utilities.

The importance of the Trinity project is overshadowed only by the need for its completion as soon as possible. I urge the subcommittee to approve the project as passed by the House.

Senator ANDERSON. Congressman Scudder has left a letter, which we will put in the record at this point.

(The letter referred to is as follows:)

CONGRESS OF THE UNITED STATES,
HOUSE OF REPRESENTATIVES,
Washington, D. C., July 14, 1955.

CHAIRMAN, IRRIGATION AND RECLAMATION SUBCOMMITTEE,
Senate Committee on Interior and Insular Affairs, Senate Office Building.

DEAR MR. CHAIRMAN: You have for consideration H. R. 4663, authored by my colleague from California, Congressman Clair Engle, which would authorize the Secretary of the Interior to construct, operate, and maintain, the Trinity River division—Central Valley project of California, under Federal reclamation law.

The Trinity River originates in Trinity and Humboldt Counties in northern California. The river then flows northerly and westerly through Humboldt County and empties into the Klamath River, which flows northerly into the Pacific Ocean.

When this bill was first proposed, the residents of Humboldt and Del Norte Counties objected to the diversion of this river, as there are water needs in those two counties for a certain amount of the water that flows in the river. There was included in the bill a proviso that would maintain a flow of water in the Trinity River during the months of July through November, sufficient to maintain fish life.

The residents of the counties requested a provision be placed in the bill that would guarantee to them sufficient water to provide for their expanding economy.

You will note the proviso on page 4, line 4, "That not less than 50,000 acre-feet shall be released annually from the Trinity Reservoir and made available to Humboldt County and downstream water users."

This apparently will satisfy the downstream users, and their objection to the project as originally proposed, has thereby been removed.

I feel that this project, from a power standpoint, is feasible, and that the water diverted to the Central Valley of California will supplement the irrigation needs of the valley.

Respectfully submitted.

HUBBERT B. SCUDDER, M. C.

EXHIBIT 8

7/27/95

JAN 30 1995

MP-440
WTR-4.10

Mr. S. V. Plowman
Chairman, Trinity County Board of Supervisors
P.O. Drawer 1258
Weaverville, California 96093

Subject: Federal Reserved Water Right to 50,000 Acre-Feet From the Trinity
Division of the Central Valley Project (Your Letter Dated
November 16, 1994)

Dear Mr. Plowman:

Thank you for your letter to Secretary of the Interior Bruce Babbitt expressing concerns with respect to Reclamation's operations of the Trinity Division of the Central Valley Project (CVP). Your letter requests Secretary Babbitt direct Reclamation to "comply with federal and state laws" and release from Trinity Division reservoirs the 50,000 acre-feet of water reserved for the economic benefit of the watershed of origin as promised by Congress in 1955.

As a point of clarification, the 50,000 acre-feet of water which Reclamation has been directed to release and make available for downstream use pursuant to the authorizing legislation and Trinity Division water right permits is not a "Federal Reserved Water Right" as that term has been used in other context. It is a congressionally authorized reservation of water pursuant to the area of origin statutes recognized under California State law.

Consistent with the authorizing legislation for the Trinity Division, specifically Section 2 of Public Law 84-386, all eight of the Trinity Division water right permits as well as the 1959 contract with Humboldt County provide for a requirement that the United States will release sufficient water from Trinity and/or Lewiston Reservoirs into the Trinity River so that not less than an annual quantity of 50,000 acre-feet will be available for the beneficial use of Humboldt County and other downstream users.

This reservation insures a quantity of water will be available to provide for the consumptive use of Humboldt County and other downstream users, should such use take place.

The authorizing legislation requires the maintenance of specified flows for the preservation and propagation of fish and wildlife. The 50,000 acre-feet for downstream beneficial use was intended for consumptive uses that may develop and require additional releases. As such, the contract with Humboldt

County was executed by the parties on the basis that the 50,000 acre-feet is included within the total quantity of water provided for in the fishery releases and is not additive to that quantity as long as reservoir releases, accretions, and tributary flows are sufficient to supply the 50,000 acre-feet required for downstream use(s).

The Trinity Division is being operated in a manner consistent with the intent of the established 50,000 acre-foot reservation to provide sufficient water annually to meet the beneficial use of Humboldt County and other downstream users as provided by the authorizing legislation and water right permits for the Trinity Division. Until such time as future downstream development occurs which requires additional releases to meet that consumptive use, there is no need for these additional reservoir releases.

If you have any questions or would like to discuss this issue, please contact Assistant Regional Director Dan Fults at (916) 979-2207.

Sincerely
(sgd) DAN M. FULTS

ACTING FOR
Roger K. Patterson
Regional Director

cc: Mr. Dale Hall
Assistant Regional Director
U.S. Fish and Wildlife Service
911 NE. 11th Avenue
Portland OR 97232-4181

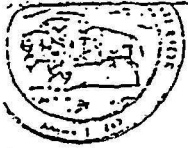
Mr. Wayne White
Field Supervisor, U.S. Fish and
Wildlife Service
2800 Cottage Way
Sacramento CA 95825-1880

Mr. Jason Peltier
Manager, Central Valley Project
Water Association
1521 "I" Street
Sacramento CA 95814

Mr. Roger Fontes
Chairman, CVP Customer
Technical Committee
180 Cirby Way
Roseville CA 95678-6420

bc: Commissioner, Attention: W-6332
MP-100/101, 152, 153 (Bruss), 2800, 440 (Water Rights)
TRB-100

EXHIBIT 9



United States Department of the Interior

OFFICE OF THE SOLICITOR

SACRAMENTO REGION
2800 COTTAGE WAY
ROOM E-2753
SACRAMENTO, CALIFORNIA 95825

Cat

July 1, 1974

Memorandum

To: Regional Director, Bureau of Reclamation, Sacramento

From: Assistant Regional Solicitor

Subject: Request for opinion re authority of the Secretary of the Interior to alter present functions and accomplishments of Trinity River Division, Central Valley Project

I.

The question has been raised by your office as to whether operations of the Trinity River Division might legally be altered to provide flood control benefits downstream from Trinity and Lewiston Dams.

Any authority of the Secretary of the Interior to release water from Trinity or Lewiston Dams for the purpose of flood control downstream must be found in the statutory grant of power to the Secretary to operate the Trinity River Division. Federal Trade Comm. v. Raladam, 283 U.S. 643. It is my opinion that such authority cannot be found in the purpose of the Trinity River Division Act, nor in its integration into the Central Valley Project either directly through the operational provisions of Section 2 of the Trinity River Division Act, or indirectly through incorporation of the stated purposes of the Central Valley Project Act, and that no such releases of water can lawfully be made.

Section 1 of the Trinity River Division Act, 69 Stat. 719 (P.L. 386, 84th Cong., 1st Sess.), gives the purpose of the Division as ". . . increasing the supply of water available for irrigation and other beneficial uses in the Central Valley of California" (emphasis supplied). All other provisions of the Act are wholly consistent with this purpose. The Division is authorized "as an addition to and an integral part of the Central Valley Project." (Section 1, 69 Stat. 719) whose purpose is to provide benefits specifically to the Central Valley of California, and the integration is directed to be made in the "fullest, most beneficial, and most economic" (Section 2, 69 Stat. 719) manner possible. Utilizations

of water benefitting the Trinity Basin, on the other hand, are set forth as exceptions to full integration. The release of water into the Trinity River Basin does not further the stated purpose of use in the Central Valley and is, therefore, not authorized by the purpose clause of the Division Act.

Moreover, the specifically authorized downstream releases provided for in Section 2 of the Act do not give any authorization for other generally beneficial releases. The maxim of statutory construction is that express mention of one thing excludes all unmentioned things from the scope of the legislation. The enumeration of exclusions from the operation of a statute indicates that it should apply to all cases not specifically excluded. Hartzberg v. Finch, 321 F.Supp. 1367 (S.D.N.Y., 1971).

The lack of Congressional intent to authorize general beneficial releases downstream, especially for flood control, is accurately reflected in the legislative history of the Trinity River Division Act. No significant flood control benefit had been foreseen at any time since the Project was originally conceived. State Water Plan of 1931, Bulletin No. 25 (Engle, Central Valley Project Documents, Vol. I, pp. 282-284, 295-297) (Trinity Dam Project excluded from flood control element of State Water Plan); Finding of Feasibility, House Document No. 53, 83d Cong., 1st Sess. (Engle, Central Valley Project Documents, Vol. I, p. 853) (no allocation of cost to flood control benefit due to the Project); Hearings before the Subcommittee of the Committee on Interior and Insular Affairs, House of Representatives, 84th Cong., 1st Sess., on H.R. 4663, pp. 51-52 (Testimony that any flood control benefits would be so minor that they could be ignored); Report of House Committee on Interior and Insular Affairs, House Report No. 602, 84th Cong., 1st Sess., p. 5 (no recognition of flood control benefits, though other nonreimbursable costs are cited); Report of Senate Committee on Interior and Insular Affairs, Senate Report No. 1154, 84th Cong., 1st Sess., p. 6 (no recognition of flood control benefits, though other nonreimbursable costs are cited). In the committee reports and in debate the only concern expressed for downstream interests was that they receive a minimum adequate supply of water for their needs, not that they be protected from any overabundance. Report of House Committee on Interior and Insular Affairs, House Report No. 602, 84th Cong., 1st Sess., pp. 5, 9; Report of Senate Committee on Interior and Insular Affairs, Senate Report No. 1154, 84th Cong., 1st Sess., p. 8; 101 Cong. Rec. 8880-8891, remarks of Representative Scudder (Humboldt-Del Norte); 101 Cong. Rec. 12315, remarks of Senator Kuchel (California). Therefore, any omission of mention of flood control releases or other releases beneficial to downstream interests from the downstream releases authorized by the Act would appear to be entirely conscious and intentional.

Section 2 of the Act provides for the manner in which the operation of the Trinity River Division is integrated into the Central Valley Project. It directs that "the operation of the Trinity River Division shall be integrated and coordinated . . . with the other features of the Central Valley Project . . . in such manner as will effectuate the fullest, most beneficial, and most economic utilization of the water resources hereby made available." Section 2, 69 Stat. 719 (P.L. 386, 84th Cong., 1st Sess.) The words "fullest, most beneficial, and most economic utilization" describe the manner of integration with the Central Valley Project, not the general utilization of the impounded water. The directive does not authorize any use or any manner of use of water which is not or cannot be integrated into the Central Valley Project, hence no authorization for flood control in the Trinity Valley.

Even if the purposes of the Central Valley Project as a whole are incorporated into the Trinity River Division authorization by the language of integration, the flood control purposes set forth in the Central Valley Project Act, 50 Stat. 844 (P.L. 392, 75th Cong., 1st Sess.) still would not authorize flood control in the Trinity River Basin. The legislative history of the Central Valley Project indicates clearly that the flood conditions meant to be corrected by the Project were those occurring in the Sacramento and San Joaquin River Basins, not flood conditions existing generally in the State. This intention is reflected in the total lack of discussion of flood problems in other basins, the detailed discussion of the causes and possible solutions to the problem of floods in the Central Valley, and the fact that the Trinity Dam Project was never seen to contribute any flood control benefit at all to the Project. State Water Plan of 1931, Bulletin No. 25 (Engle, Central Valley Project Documents, Vol. I, pp. 281-284, 294-297); Finding of Feasibility, House Doc. No. 53, 83d Cong., 1st Sess. (Engle, Central Valley Project Documents, Vol. I, p. 853).

Therefore, since no statutory source of power can be found for the Secretary to alter operation of the Division for flood control or other purposes generally beneficial to downstream interests, it is my conclusion that the Secretary has no authority to make such releases of water.

II.

Your office has also requested interpretation of the last proviso of Section 2 of the Act as it relates to releases authorized for

fish preservation. The proviso reads:

" . . . That not less than 50,000 acre-feet shall be released annually from the Trinity Reservoir and made available to Humboldt County and downstream water users." Section 2, 69 Stat. (P.L. 386, 84th Cong., 1st Sess.)

The water released for fishery purposes is not consumed, but remains available later for use by other downstream users. In addition, the term "downstream water user" is not specific, but appears to refer to all downstream users generally, including the fishery.

Therefore, it is my opinion that since the purpose of the Division is to provide as much water as possible to the Central Valley, Section 1, 69 Stat. 719 (P.L. 386, 84th Cong., 1st Sess.) the 50,000 acre-feet referred to in the last proviso of Section 2 should be construed to include the water necessary to maintain minimum specified flows for fish preservation and propagation rather than being considered to be in addition to such flows.

Rita Singer

Rita Singer
Assistant Regional Solicitor
Sacramento Region

JGoldsmith:RSinger:br

EXHIBIT 10

SACRAMENTO REGION
2800 COTTAGE WAY
ROOM E-2753

WPA5 INTERMEDIATE
OF PL 84-386 REF
50,000 AC SET ASIDE
FOR DOWN STREAM
USE ELS.

SACRAMENTO, CALIFORNIA 95825

JAN 21 1977

Memorandum

To: Field Supervisor, Division of Ecological Services

USFWS, Sacramento

From: Regional Solicitor

Subject: Trinity River Division, CVP - Reconsideration of
July 1, 1974 Memorandum to Regional Director, Bureau
of Reclamation, Concerning Section 2 of the Trinity
River Division Act.

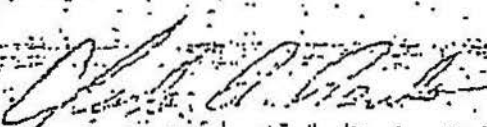
Pursuant to your December 13, 1976 request, I have reconsidered this office's previous interpretation of Section 2 of the Trinity River Division Act (69 Stat. 719; P.L. 84-386) as set forth in the memorandum identified above (copy attached). That Act clearly states that the Trinity River Division was intended to serve multiple purposes including (1) enhancement of fish and wildlife resources by maintaining the flow of the Trinity River below the applicable point of diversion (i.e. Clear Creek Tunnel) at a minimum of 150 c.f.s. and by maintaining the flow of Clear Creek below the applicable point of diversion (i.e. Spring Creek Tunnel) at a minimum of 75 c.f.s.; and (2) providing a water supply to Trinity River users downstream from Trinity Reservoir by making a minimum annual release from that Reservoir of 50,000 acre-feet. As stated in our July 1, 1974 memorandum to the Regional Director, these are not necessarily conflicting purposes. Rather, releases from Trinity Reservoir for downstream use coincides with the requirement to maintain flows downstream from the diversion points set forth above. It is possible, however, that the flow of the Trinity River will drop below the 150 c.f.s. minimum at points downstream from diversions made by downstream users, thereby causing harm to fish resources. However, should that reduction in the flow of the Trinity River occur, the Act grants the Secretary of the Interior broad authority to increase the size of the releases

from the Trinity facilities should such additional releases be deemed necessary in order to serve fish and wildlife enhancement purposes. (See our December 6, 1973 memorandum to the Regional Director concerning this issue, a copy of which is attached.)

In summary, we cannot find specific terminology in the Act itself or any reference in the legislative history relating to the Trinity River Division Act which supports the premise stated in your memorandum of December 13, 1976 that the Act does or was intended to provide separate and distinct "blocks of water" for fish preservation and propagation purposes and we cannot, therefore, support your interpretation. We do, however, find the authority mentioned hereinabove whereby the Secretary may make such additional releases for this purpose as he deems necessary.

In order to clarify treatment of this issue in our July 1, 1974 memorandum to the Regional Director, it is hereby amended by addition of the following at the end of the last paragraph on page 4 of that memorandum:

however, it should be noted that the proviso quoted above does not limit downstream use to 50,000 acre-feet annually. Rather, as pointed out in our memorandum of December 6, 1973, the Secretary has discretionary authority to release additional water for the purpose of preserving or propagating fish resources.


Charles R. Renda
Regional Solicitor
Sacramento Region

Enclosures - 2

cc: Regional Director, Bureau of Reclamation (w/o encl.)

JETurner/ch

EXHIBIT 11



Terry Tamminen
*Secretary for
Environmental
Protection*

State Water Resources Control Board

Division of Water Rights

1001 I Street, 14th Floor • Sacramento, California 95814 • 916.341.3300
Mailing Address: P.O. Box 2000 • Sacramento, California 95812-2000
FAX: 916.341.3400 • www.waterrights.ca.gov



Arnold Schwarzenegger
Governor

In Reply Refer to:
363:CAR:262.0(53-16-03)

August 9, 2004

Humboldt County Board of Supervisors
c/o Honorable Jill Geist
825 5th Street, Room 111
Eureka, CA 95501

Dear Ms. Geist:

COMPLAINT AGAINST THE U.S. BUREAU OF RECLAMATION REGARDING THE TRINITY RIVER DIVISION OF THE CENTRAL VALLEY PROJECT IN TRINITY COUNTY

Staff of the Division of Water Rights (Division) has completed an initial review of the complaint filed by the Humboldt County Board of Supervisors against the U.S. Bureau of Reclamation (USBR) regarding operation of the Trinity River Division (TRD) of the Central Valley Project. A "Memo to File" regarding this review is enclosed.

Flow records indicate that total releases of water below Lewiston Dam since the 1978 water year have been more than sufficient to meet the minimum required fishery flows and to provide an additional 50,000 acre-feet per annum (afa) that could have satisfied the requirements of both Humboldt County and other downstream users pursuant to Term 9 of the TRD water right permits. Consequently, it does not appear that the USBR has withheld water from Humboldt County and other downstream water users. Additionally, based on the opinion of the Ninth Circuit Court of Appeals issued July 13, 2004, the flow releases in the Trinity River may be substantially increased on a permanent basis.

Based on the information contained in the complaint documents, the Board of Supervisors may not understand the apparent intent of Term 9 of the TRD permits. I believe that this term was included to provide some "area of origin" protection for Humboldt County and other downstream users. In other words, after the minimum bypass requirements specified in Term 8 were met, the USBR could be required to release additional flows from project storage, if necessary, so that at least 50,000 acre-feet per annum would still be available for diversion downstream between Lewiston Dam and the Pacific Ocean.

Diversions could be accomplished in several ways. Downstream diversions could be made under the diverter's own basis of right, which would need to be an appropriative right to divert water released from storage¹. If the County of Humboldt wishes to appropriate water for instream

¹ - Riparian rights do not authorize diversion of water released from storage because stored water is "foreign" in time. However, riparian right holders have first call on natural flow in the river and

Honorable Jill Geist

- 2 -

August 9, 2004

beneficial uses, California law requires that the water be taken under physical control rather than just allowed to flow down the channel. [Fullerton v SWRCB (1979) 90 Cal.App.3d 301.] Before the County of Humboldt could make use of the contract with the USBR to obtain water, the USBR would need to file a petition and obtain an order changing the authorized place of use under the TRD permits. If the USBR chose not to seek such an order, the County of Humboldt would probably need to seek relief in the federal courts to enforce the contract.

A look at the actual flows in the river shows that the minimum and average flows in the affected reaches of the Trinity and Klamath Rivers since the inception of the TRD project facilities in 1964 have been:

Trinity River at Hoopa, CA (USGS Gage 11530000):

Average Flow = 3,495,366 acre-feet per annum

Minimum Flow = 1,240,876 acre-feet per annum

Klamath River near Klamath, CA (USGS Gage 11530500):

Average Flow = 11,478,459 acre-feet per annum

Minimum Flow = 5,371,106 acre-feet per annum

The actual minimum flows have been twenty to one hundred times greater than the flows that would be contributed by Term 9. In addition, Table 1 of the enclosed Memorandum indicates that the minimum release below Lewiston Dam since 1979 was 224,694 acre-feet per annum, or almost 130,000 acre-feet more than would be necessary to meet the requirement of Term 9. Diversions between Lewiston Dam and the gage near Hoopa are much smaller. Consequently, the potential for the USBR to need to make additional releases to satisfy the requirements of Term 9 is extremely small.

In view of the above information, the Division of Water Rights will take no further action with respect to this complaint at this time. If there are any questions, I can be reached at (916) 341-5423 or Charles Rich, Chief of the Division's Complaint Unit, can be reached at 341-5377.

Sincerely,

Original Signed By

Victoria A. Whitney
Division Chief

cc: See next page.

cc: U.S. Department of the Interior

sufficient amounts of these flows would have to be bypassed to satisfy downstream riparian rights.

Honorable Jill Geist

- 3 -

August 9, 2004

Regional Solicitors Office
Pacific Southwest Region
2800 Cottage Way, E-1712
Sacramento, CA 95825-1890

Mr. Andrew P. Tauriainen
Kronick Moskovitz Tiedemann & Girard
400 Capitol Mall, 27th Floor
Sacramento, CA 95814

bcc: Harry Schueller, Vicky Whitney, John O'Hagan, Barbara Leidigh

CAR:llv 07/30/04
U:/comdrv/crich/Trinity Cover Letter.doc
Control Tag. No. 17877



Terry Tamminen
Secretary for
Environmental
Protection



Arnold Schwarzenegger
Governor

MEMORANDUM

TO: File 262.0 (53-16-03)

FROM: Charles Rich, Chief - CAR
Complaint Unit
DIVISION OF WATER RIGHTS

DATE: July 27, 2004

SUBJECT: COMPLAINT BY THE HUMBOLDT COUNTY BOARD OF SUPERVISORS
AGAINST THE USBR'S TRINITY RIVER PROJECT

Background

The Board of Supervisors for Humboldt County filed a formal complaint against the U.S. Bureau of Reclamation (USBR) on June 9, 2004. The basis of the complaint is described as follows:

"Humboldt County has a 1959 permanent contract with the Bureau of Reclamation (BOR) for 50,000 acre-feet of water every year and has repeatedly expressed our desire to make this water available.

On March 25 of 2003, the Board of Supervisors notified the Department of the Interior and BOR of our intent to have that water be made available for the beneficial uses associated with fisheries on the lower Klamath, Trinity/Klamath confluence and Trinity River. A year has transpired and, to date, neither the Department of the Interior nor BOR has replied."

In response to this complaint, I undertook a review of the files for the Trinity River Division (TRD) of the Central Valley (CVP) Project. Most of the correspondence for this project is contained in the file for the low numbered filing; i.e., Application 5627 (Permit 11968).

The water right applications for the TRD were protested by the California Department of Fish and Game (DF&G). A hearing regarding the unresolved protest against the TRD applications was commenced on December 29, 1958 and continued on May 5, 1959. Permits were issued pursuant to Permit Order 124 dated September 10, 1959. The following terms, that have a bearing on the recent complaint, were included in the permits issued:

- *(Term 8) Permittee shall at all times bypass or release over, around or through Lewiston Dam the following quantities of water down the natural channel of Trinity River for the protection, preservation and enhancement of fish and wildlife from said dam to the mouth of said stream;*

*October 1 through October 31 – 200 cfs
November 1 through November 30 – 250 cfs
December 1 through December 31 – 200 cfs
January 1 through September 30 – 150 cfs*

Any water released through said Lewiston Dam for use in the fish hatchery now under construction adjacent thereto shall be considered as partial fulfillment of the above schedule.

- *(Term 9) Permittee shall release sufficient water from Trinity and/or Lewiston Reservoirs into the Trinity River so that not less than an annual quantity of 50,000 acre-feet will be available for the beneficial use of Humboldt County and other downstream users.*

The question which is posed in the recent complaint filed by Humboldt County is whether these two terms are "additive" to or "inclusive" of each other. A "Memo to Files" dated May 5, 1959, from hearing staff for the State Water Rights Board indicates that a "Memorandum of Operating Agreement" between the USBR and the DF&G was offered into evidence as a joint exhibit from both parties. This memorandum set forth the releases to be made through Lewiston Dam into the natural channel of the Trinity River for the preservation of fish and wildlife. The memo to files also states:

"An agreement between the United States and Humboldt County was mentioned by Mr. Silverthorne, and an unexecuted copy thereof was given to the Board. Some discussion was had concerning the relation of the releases for fish and wildlife and the releases for Humboldt County. However, no conclusive statement was given by the representatives of the Bureau of Reclamation as to whether said releases were to be additive or whether the releases for fish and game included the release for Humboldt County. . . . The hearing was concluded with the understanding that should the Board so desire, after reviewing the executed agreement between the United States and Humboldt County, the hearing would be reconvened upon notice thereby."

A letter dated May 6, 1959 was subsequently submitted by the Deputy Attorney General representing the DF&G. This letter states:

"Since the Water Rights Board has continued the hearings in the above noted matter for the purpose of determining whether or not to receive in evidence the contract reached between the United States and the County of Humboldt, and since there may be some difference of opinion as to the interpretation of that contract and the agreement entered into between the United States and the Department of Fish and Game, I wish to make the following observations:

July 27, 2004

Paragraph 1 of the Operating Agreement reached between the DF&G and the United States reads as follows:

- '1. BUREAU shall at all times bypass or release over, around and through Lewiston Dam the following quantities of water down the natural channel of the Trinity River for the protection, preservation, and enhancement of fish and wildlife from said dam to the mouth of said stream:*

*Oct. 1 through Oct. 31 - 200 cfs
Nov. 1 through Nov. 30 - 250 cfs
Dec. 1 through Dec. 31 - 200 cfs
Jan. 1 through Sept. 30 - 150 cfs*

Any water released through said Lewiston Dam for use in the fish hatchery now under construction adjacent thereto shall be considered as partial fulfillment of the above schedule.'

It is my understanding that the above quoted matter requires a release by the United States of the specified flows for stream maintenance purposes and it is also my understanding that none of these flows may be assigned or designated by the United States for any other purpose; that is, while the United States is not bound to forever maintain these flows from the Lewiston Dam to the mouth of the Trinity River as against other proposed diversions, it is required to make these flow releases in excess of any releases that it makes for other downstream uses.

Paragraph 8 of the proposed contract between the United States and the County of Humboldt provides:

- '8. The United States agrees to release sufficient water from Trinity and/or Lewiston Reservoirs into the Trinity River so that not less than an annual quantity of 50,000 acre-feet will be available for the beneficial use of Humboldt County and other downstream users.'*

It is my view that any water released under that paragraph for the use of Humboldt County and other downstream users, is in excess of the flows released for stream maintenance.

I hope this will clear up any possible misunderstanding as to the meaning of the Agreement entered into between the United States and the California Department of Fish and Game."

The Regional Director of the USBR responded with a letter dated June 1, 1959. This letter indicates that USBR staff had reviewed the May 6th letter from the Office of the Attorney General. The letter also contains a statement that the Finding of Feasibility of the Secretary of the Interior for the TRD project was predicated upon the assumption that a total of 120,500 acre-feet per annum (afa) would be released down the natural channel below Lewiston Dam. The Regional Director also pointed out that *"There is no legislative history to substantiate an assertion, or any reason to assume that the 50,000 acre-feet set forth in Section 2 of Public Law 386 is additive to the required fish release or any other release."* The Regional Director expressed the opinion, based on historical streamflow, that the release of any water in addition to the required fishery flows would result in a waste of water to the ocean.

By letter dated June 8, 1959, the Office of the Attorney General was provided a copy of the June 1st letter from the USBR and asked if the DF&G is in agreement with the position provided therein. I have been unable to locate any materials in the files indicating that either the Office of the Attorney General or the DF&G responded to this request in either a verbal or written fashion. However, the Deputy Attorney General assigned to this matter was in the process of retiring from state service and setting up a private practice and this request may have been overlooked.

The USBR submitted a letter dated June 19, 1959, which enclosed an executed copy of the contract between the USBR and the County of Humboldt. This letter states: *"This contract has been executed on the basis of our firm position that the 50,000 acre-feet made available thereby is not additive to the 120,500 acre-feet annually to be released from Lewiston Dam as provided in an agreement between the United States and the State Department of Fish and Game dated March 27, 1959, copies of which have been furnished to you."* The USBR letter was acknowledged by the State Water Right Board via a letter dated June 25, 1959. No mention of the "additive versus inclusive nature" of the terms is contained therein. Permit Order 124 was subsequently prepared and the permits issued thereafter.

During the midst of the severe drought of 1976-77, the Trinity County District Attorney sent a letter dated March 7, 1977, to the State Water Resources Control Board (SWRCB) and a letter dated March 17, 1977, to the USBR. These letters contain arguments for maintaining a higher lake level for recreational benefits pursuant to the assignment of State Filings by the California Water Commission to the USBR. The March 17th letter mentions the fishery releases of 125,000 afa and the contract with Humboldt County for 50,000 ac-ft of release. The District Attorney concluded that the total required releases from Trinity Reservoir will be 175,000 ac-ft. He also indicated that it would be prudent to hold an additional two-year supply of 350,000 ac-ft in storage to ensure that these releases can continue to be made should the drought persist.

The County of Trinity subsequently filed a formal complaint with the SWRCB on April 1, 1977 alleging that any drawdown of Trinity Lake below 837,600 ac-ft by the USBR constitutes a violation pursuant to Water Code Sections 11460 and 11463 (area of origin protections) and the need to release 175,000 afa to comply with permit terms intended to protect fish and wildlife

resources and downstream users in Humboldt County. The complainant also requested that the SWRCB ask the Attorney General to seek an injunction to prevent drawdown of Trinity Lake below 837,600 ac-ft for county of origin needs.

An "Engineering Staff Analysis of Record" dated June 2, 1977 was prepared by Division staff. Staff found that the fishery release schedule had been modified slightly in 1968 by the DF&G and the USBR without notifying the SWRCB. However, the modifications were minor and resulted in the same annual release. Flows had been reduced below these levels once in 1976 to repair a wing wall at Lewiston Dam. Concurrence with the reduction had been obtained from DF&G and prior notification was provided to the SWRCB.

Staff noted: "A total annual release of 170,700 af (120,700 af for fish plus 50,000 af for downstream users) was met in water year 1974-75 but not in 1975-76. Likewise, that same pattern was duplicated in calendar year 1975 but not 1976." Apparently, Division staff at that time believed that terms 8 and 9 were additive and not inclusive. Staff concluded the report as follows:

"Trinity County has requested that the Board direct the Attorney General to file an injunction to prevent Trinity Reservoir from being drawn down below 837,600 acre-feet. Because the derivation of the claimed county of origin need of 312,600 af is not supported, and because of the lack of basis for the requirement that 350,000 af of reserve storage is needed, we recommend that an injunction not be requested."

Although we conclude that a violation of two permit terms (number 8 regarding fish releases and number 9 regarding downstream uses) has occurred, it is not of a magnitude to be cause for revocation of the USBR permits. If the USBR intends on continuing operating Trinity/Lewiston Reservoirs as it has in the past, we suggest that consideration be given to temporarily modifying applicable permit terms pursuant to Title 23, California Administrative Code, Section 763.5(d). After cessation of the drought period, the USBR should diligently comply with the existing terms. In the case of the modified fish release schedule, the USBR should formally request Board approval of a modified permit term."

Trinity County was notified via a letter dated August 10, 1977 of the violations that had occurred. This letter indicates that the DF&G had apparently cooperated with the USBR in the method of operation that resulted in these violations. The letter also states: "The need for the maximum use of our water resources during this drought period is obvious. Staff has concluded that the violations cited, in balance, are not sufficient to warrant revocation of the USBR permits." Due to the lack of supporting documentation for the request for pursuit of an injunction, the SWRCB declined to recommend that an injunction be sought. The USBR was also notified (via a copy of

the letter) that modification of Permit Terms 8 and 9 is necessary if the then-current manner of operating Trinity and Lewiston Reservoirs was to be continued.¹

Trinity County requested a formal hearing before the SWRCB via a letter dated August 19, 1977. A copy of a letter dated October 24, 1973 from the DF&G to the USBR was also included with this request. The October 24th letter indicates that the DF&G had great concerns with the fishery conditions in the river below the project.

The Regional Director of the USBR submitted a letter dated August 23, 1977, in response to the staff report. He argued that no violations have occurred other than changes requested by DF&G which resulted in the same annual release. He also argued that the USBR might not be subject to terms and conditions contained in the permits as long as the Congressional mandates for the project were being met.

The USBR also disagreed with any representation that a violation has occurred with respect to term #9 regarding the release of 50,000 ac-ft for Humboldt County and other downstream users. The letter further states: *"We have a written opinion from the Regional Solicitor, Department of the Interior, that the 50,000 acre-feet are not additive to the fish releases. We fail to understand, therefore, how we can be in violation."*

By letter of November 29, 1977, all parties to the complaint were notified that: *"In accordance with Section 764 of the California Administrative Code, Title 23, 'Waters', the Board has reviewed the record and has decided not to hold a hearing in this matter."*

I have been unable to locate any other material that appears to have a bearing on these terms and the complaint at hand. The SWRCB and its predecessor, the State Water Rights Board, have not previously had a reason to issue a decision ruling on the interpretation of term 9, although the Division has opined that the 50,000 acre-feet is to be added to the fish releases, and a Deputy Attorney General representing the Department of Fish and Game has interpreted the contract and the water right terms as adding the 50,000 acre-feet for Humboldt County to the releases being made for fish.

Related Issues

1. Compliance with fishery flow release requirements (Term 8)

The gaging record for the USGS gage below Lewiston Dam (#11525500) for the period 1964 through 2002 (water years) were downloaded and analyzed. According to the files, diversion for beneficial use at the TRD project did not begin until 1964. While data for the 2003 and 2004 water years is available, this information is still "provisional" and subject to change. In

¹ - I found no evidence that a petition for change was ever filed seeking amendment of these terms.

view of the relatively high releases over the past 20 years or so, I would expect that flows since October 2002 have been greater than required.

In theory, the requirements extend all the way to the mouth of the Trinity River. A long-term record for Gage #11530000, Trinity River at Hoopa, CA is available. However, the Trinity River is a gaining stream with VERY little diversion. Consequently, flows at this location were not evaluated.

Table 1 (attached) provides a summary of flows and apparent violations at the gage below Lewiston Dam. A substantial number of apparent violations (985) occurred during the first 15 years of this record. Only three (3) more occurred thereafter. No violations have occurred since November of 1984. Some of the early violations occurred when the DF&G agreed to a change in release requirements by shifting the 250 cfs flow requirement for November back to the period October 15 to November 14 and neither party notified the SWRCB or sought approval for the change.

2. Status of Fishery Studies and Court Actions

The Trinity River Act of 1955, which authorized the dams and the diversion of water to the Central Valley Project (CVP), also mandated that the fish and wildlife of the basin were not to be harmed. Water was to be provided to the river to achieve that purpose. Within just a few years of construction, very significant adverse impacts to the fishery became apparent. Construction of the project facilities was completed in 1963 and full operation began in 1964. During the first 10 years of operation, an average of 88% of all flows was exported from the basin. During the first 33 years of operation, an average of 68% of all flows was exported. By 1978, the U.S. Fish and Wildlife Service estimated that fishery populations had declined by 60% to 80% and fishery habitat had declined by 80% to 90%. In 1984, Congress directed the Secretary of the Interior via the Trinity River Basin Fish and Wildlife Management Act to implement a restoration program with the objective of restoring fish and wildlife populations levels "to those which existed immediately preceding construction of the (dams)."

Subsequent actions by Interior Secretary Cecil Andrus and requirements in the Central Valley Project Improvement Act of 1992 mandated a study to determine the water requirements for a "healthy" river and a decision on river flows by the end of 1996. That study was completed in May 1999. The Trinity River Record of Decision (ROD) was signed by former Interior Secretary Bruce Babbitt in December 2000. The ROD was based on the Trinity River Mainstem Fishery Restoration EIS/EIR.

The draft EIS/EIR indicates that a primary factor in the decline of the Trinity River ecosystem is the result of decreased water flows into the river along with the resulting changes in river habitats. The "best available science" in the study recognizes that the highest priority for recovery is increased flows. The draft EIS/EIR contains a preferred alternative, that less than

half — only 48% of the water — be returned to the river for environmental purposes. Another alternative in the EIS/EIR is called the Maximum Flow Alternative and under this alternative, all of the Trinity water would be returned to the river. This alternative also provides the maximum restoration of fisheries (~81%) among the alternatives considered.

The Maximum Flow Alternative is preferred by native Americans and fishery interests. The hydropower and agricultural industries led by Westlands Water District — the main beneficiary of Trinity River water — is strongly opposed to any return of flows to the river. They also question whether the "best available science" is adequate as a basis for a decision. Hydropower and agriculture interests challenged the EIS/EIR in court.

In several rulings between March 2001 and March 2003, Federal District Court Judge Oliver Wanger addressed the lawsuits and ruled as follows:

- The ROD wasn't lawful.
- The EIS had an improperly narrow purpose and need.
- An inadequate range of alternatives was analyzed in the EIS.
- The EIS should have looked at an alternative that minimized the amount of water in the river and maximized exports to CVP customers for out of basin uses, a so-called Integrated Management Alternative.
- The USFWS Biological Opinion (BO) resulted in major modifications to CVP operations without a jeopardy opinion and the effects of implementing the BO were not properly disclosed.
- The Reasonable and Prudent Measures (RPM's) in the National Marine Fisheries Service (NMFS) BO were not adequately defined for analysis in the EIS and improperly made implementation of the ROD a condition of compliance, which is circular in nature.
- The EIS contains an inadequate analysis of power implications in Northern California.
- A Supplemental EIS must be completed by July 9, 2004 that includes new BO's from USFWS and NMFS. The new NEPA document must address the original deficiencies of the EIS and the NMFS and USFWS Biological Opinion Reasonable and Prudent Measures must be described in the draft document.
- Fishery Flow releases are limited to 369,000 ac-ft in critically dry years and 453,000 ac-ft in dry, normal, wet and extremely wet years. An additional release of 50,000 ac-ft of water down the Trinity River in the summer of 2003 was to be considered to avert a

potential fish kill in the lower Klamath River, similar to the large chinook fish kill of 33,000 adult spawners that occurred in 2002, pending other actions in the Northern Federal District Court regarding USBR's Klamath Project operations.

- All non-flow actions were directed to proceed immediately (including those relating to the bridges).

A meeting was convened by Bennett Raley, Assistant Secretary for the Department of Interior in early March 2004 in Sacramento with federal agency representatives and native American representatives. The meeting was convened to enable Mr. Raley to present a proposal to settle pending litigation that has blocked implementation of the Trinity River ROD. The tribes rejected the proposal and sought an emergency order in Federal Court. The Ninth Circuit Court of Appeals granted an emergency request by Native American Tribes this past April to send more water down the Trinity River for fish. Flows were ramped up in early May to a maximum release of 6,000 cfs. The USBR ramped flows down to 450 cfs (which are apparently "normal" summer flows even though Term 8 only requires 150 cfs) by July 22nd. These flows were intended to help juvenile fish pass to the ocean more easily. The long-term resolution of this issue was to be achieved via a final, legally acceptable ROD based on the supplemental EIR/EIS mentioned above.

On July 13, 2004, the United States Court Of Appeals for the Ninth Circuit issued Opinion 03-15194. In summary, the Court found as follows:

- The conclusion by the U.S. District Court that the scope of the EIS and the range of alternatives considered therein are unreasonable is reversed.
- The Federal District Court's injunctive orders to supplement the EIS to address the issues raised on appeal are reversed.
- The Federal District Court's ruling that two of the mitigation measures insisted upon by the Fish and Wildlife Service and the National Marine Fisheries Service in their biological opinions exceeded the statutory authority for such opinions is affirmed.
- The three claims raised by Plaintiffs (Westlands et al) on cross-appeal are rejected and the remainder of the Federal District Court's judgment is affirmed.

This decision, unless appealed and overturned, should pave the way for implementation of the ROD and the preferred alternative of the Trinity River Mainstem Fishery Restoration EIS/EIR. The preferred alternative will result in substantially more water being released below Lewiston Dam than is required under Term 8.

3. Compliance with release for Humboldt County pursuant to Term 9

Based on the data in Table 1 (attached), during 10 of the first 15 years of operation, total releases below Lewiston Dam were less than the minimum fishery flow release requirements plus 50,000 ac-ft. After 1979, releases have always exceeded the fishery maintenance flows specified in Term 8 of Permit 11968 plus 50,000 ac-ft. I was unable to locate any materials indicating that Humboldt County requested a release of water pursuant to Term 9 or the contract with the USBR prior to the March 25, 2003 letter from the Board of Supervisors to the Secretary for the Interior that is the basis for the complaint.

To complicate matters, Humboldt County is not within the authorized place of use under the TRD permits and it appears that the purpose of the reservation for Humboldt County and the contract is to provide water for out-of-stream consumptive uses. Consequently, before the USBR could make a release of water stored under the TRD permits strictly to fulfill obligations under Term 9 or the contract with Humboldt County, the USBR should add the county to the place of use for this water under the USBR's permits or Humboldt County or its residents should obtain water rights to appropriate this water after the USBR releases it from Lewiston Dam. Regardless of whether the releases required under Term 9 are inclusive or additive to those required under Term 8, flows of 50,000 cfs more than those required under Term 8 have been released pursuant to Congressional directive for fishery maintenance purposes for the past 20+ years. Releases equivalent to the maximum required under Term 9 appear to have been achieved in practice, albeit the USBR may not have intended specifically to meet Term 9.

If the Humboldt County Board of Supervisors believes that releases are not being made pursuant to the contract, they will need to pursue this matter in the Federal Courts, as this is a contractual issue outside the authority of the SWRCB.

Conclusions and Recommendation

- a) The information accompanying the order to issue the TRD permits is insufficient to determine if the State Water Rights Board intended in 1958 that the releases mandated under Term 9 for beneficial uses in Humboldt County were to be treated as being related to the releases mandated under Term 8 for protection of the fisheries in the Trinity River, and if so, whether the Humboldt release would be added to the fishery release.
- b) Releases made to protect fisheries pursuant to Congressional directive have been more than adequate to provide the water mandated by Term 9 plus Term 8.
- c) Complaint Unit staff are not aware of any recent violations of either Term 8 or Term 9.

- d) The protection of the fisheries in the portions of the Trinity and Klamath Rivers located in Humboldt County is before the federal Courts. Unless the decision of the United States Court Of Appeals for the Ninth Circuit identified above is appealed and overturned, the releases from Lewiston Dam will exceed the permit requirements for fish releases even if the water to be provided for Humboldt County is treated as being additive. If the studies are correct, these releases and the other measures to be taken under the preferred alternative will adequately protect the fishery resources of concern to the Humboldt County Board of Supervisors.
- e) The complaint of the Humboldt County Board of Supervisors against the USBR is probably moot if their interest is in augmenting the flow releases in the Trinity River for fish. If in the future Humboldt County obtains a water right permit for diversion of water from the Trinity River and the USBR fails to ensure that enough water is in the river to supply Humboldt's needs as well as its other obligations, including its instream flow obligations, Humboldt County could file another complaint. If Humboldt County instead requests that the USBR add Humboldt County to the place of use of the TRD, and the USBR fails to do so, it would be more appropriate for Humboldt County to seek relief in the federal courts under the contract.

TABLE 1
COMPLIANCE SUMMARY FOR RELEASES BELOW LEWISTON DAM
USGS GAGE 11525500 TRINITY R @ LEWISTON DAM

| | | | |
|------|-----------|-------|-----|
| 1964 | 156,531 | 219 | 10 |
| 1965 | 128,857 | 178 | 4 |
| 1966 | 154,804 | 208 | 46 |
| 1967 | 238,117 | 329 | 15 |
| 1968 | 229,098 | 178 | 6 |
| 1969 | 155,851 | 215 | 52 |
| 1970 | 213,290 | 294 | 68 |
| 1971 | 179,572 | 248 | 125 |
| 1972 | 112,911 | 169 | 74 |
| 1973 | 132,525 | 183 | 60 |
| 1974 | 704,351 | 972 | 55 |
| 1975 | 274,899 | 379 | 46 |
| 1976 | 126,387 | 174 | 176 |
| 1977 | 112,220 | 165 | 186 |
| 1978 | 177,704 | 245 | 62 |
| 1979 | 224,694 | 310 | 0 |
| 1980 | 322,039 | 444 | 0 |
| 1981 | 281,910 | 389 | 0 |
| 1982 | 467,282 | 645 | 0 |
| 1983 | 1,289,079 | 1,779 | 0 |
| 1984 | 568,672 | 785 | 0 |
| 1985 | 249,660 | 345 | 3 |
| 1986 | 494,362 | 682 | 0 |
| 1987 | 308,694 | 426 | 0 |
| 1988 | 255,268 | 352 | 0 |
| 1989 | 329,308 | 454 | 0 |
| 1990 | 232,733 | 321 | 0 |
| 1991 | 270,280 | 373 | 0 |
| 1992 | 354,273 | 489 | 0 |
| 1993 | 366,965 | 506 | 0 |
| 1994 | 354,770 | 490 | 0 |
| 1995 | 718,463 | 991 | 0 |
| 1996 | 519,146 | 716 | 0 |
| 1997 | 887,533 | 1,225 | 0 |
| 1998 | 1,297,593 | 1,791 | 0 |
| 1999 | 461,849 | 637 | 0 |
| 2000 | 560,003 | 773 | 0 |
| 2001 | 383,758 | 530 | 0 |
| 2002 | 482,673 | 666 | 0 |

EXHIBIT 12

2014 Ich Outbreak

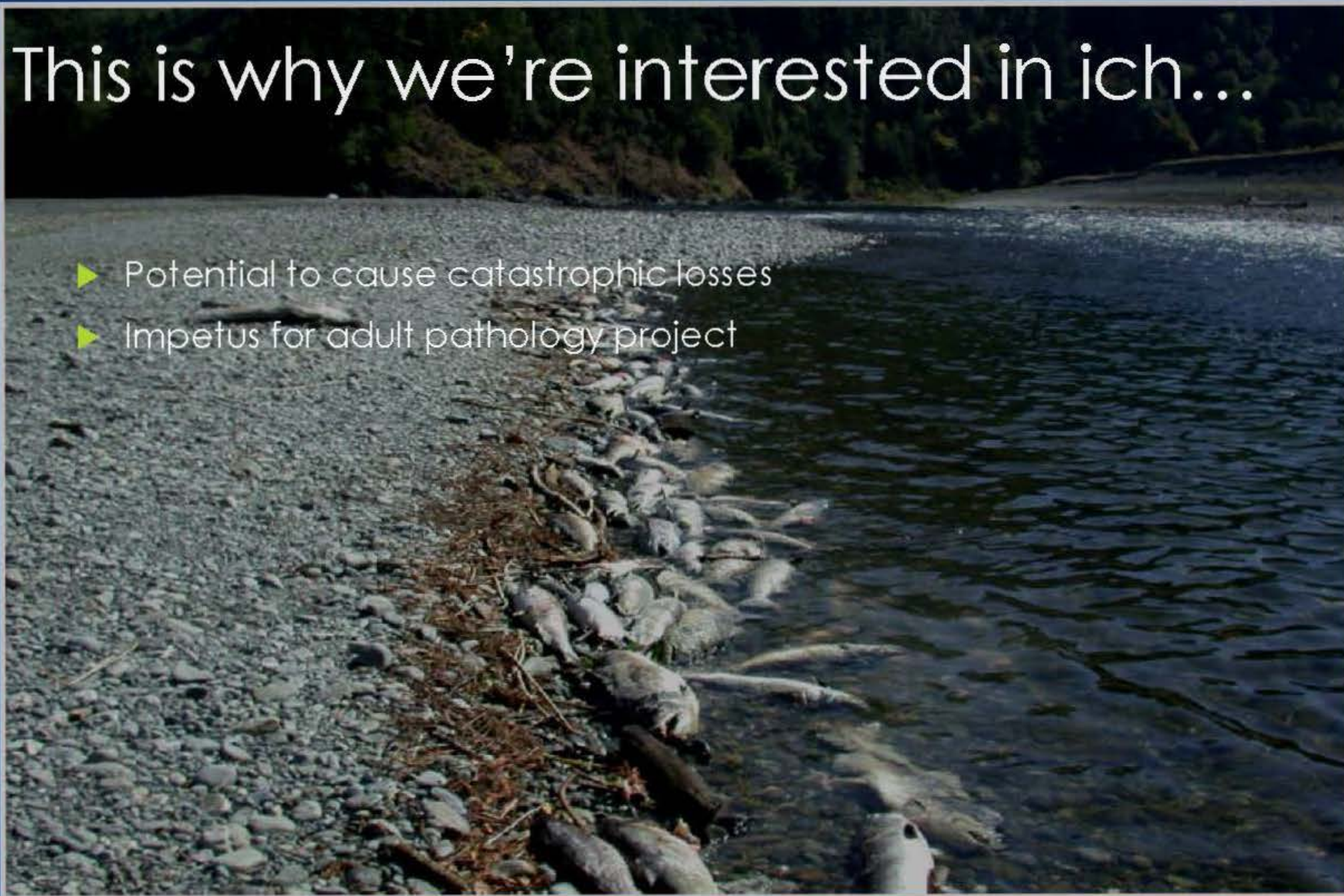
Klamath River

YUOK TRIBAL FISHERIES PROGRAM



This is why we're interested in ich...

- ▶ Potential to cause catastrophic losses
- ▶ Impetus for adult pathology project



YTFP Adult Pathology Project

- ▶ Done since 2003
- ▶ Only ich detected was in 2003
 - ▶ Problems with false positives due to metacercaria
- ▶ 2014 Project started early due to:
 - ▶ High numbers of fish at Blue Creek
 - ▶ Extremely low flows and drought conditions



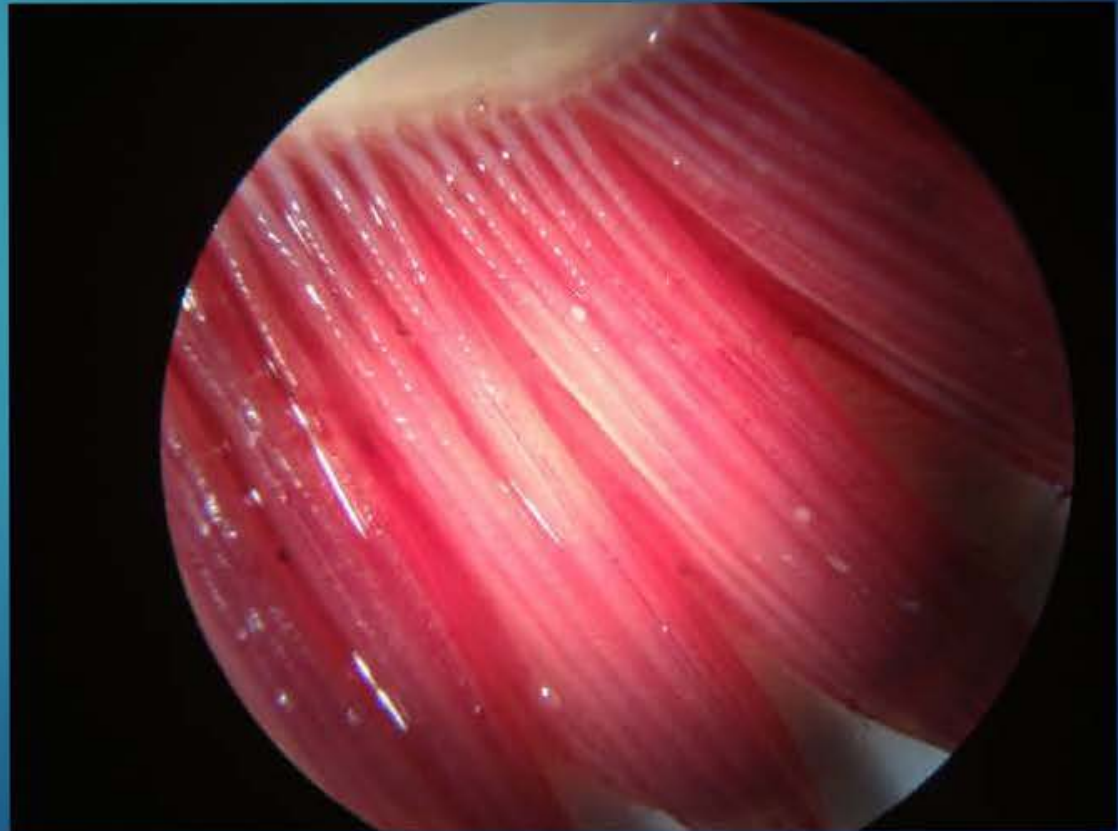
2014 Ich Sampling Effort

- ▶ Started on July 17; mostly at Blue Creek
- ▶ Large numbers of adult salmonids (many steelhead) holding in refugia at Blue and Pecwan Creeks due to high temperatures
- ▶ No detections at first...



July 25, 2014

- ▶ Crew captured a pink salmon at Pecwan refugia
- ▶ We were told it was NOT ich



September 13, 2014

- ▶ We had turned in several slide imprints to USFWS; and ich was confirmed on several of them
- ▶ Sampling event took place at Tectah Creek





Timeline:

- ▶ September 15; Dr. J. Scott Foott comes to the Yurok Reservation and confirms presence of ich.
 - ▶ Ich found in 11/26 fish; 5 with "severe" (<30/gill arch)
- ▶ No protocol yet exists for counting ich on a gill arch
 - ▶ Protocol developed using dissecting scope and "surface count" of ich
- ▶ September 15 through October 8; multiple sample events at various locations on the Klamath and Trinity Rivers on the Yurok Reservation
- ▶ October 14-29; additional samples taken at Iron Gate Hatchery (Thank you to CDFW)

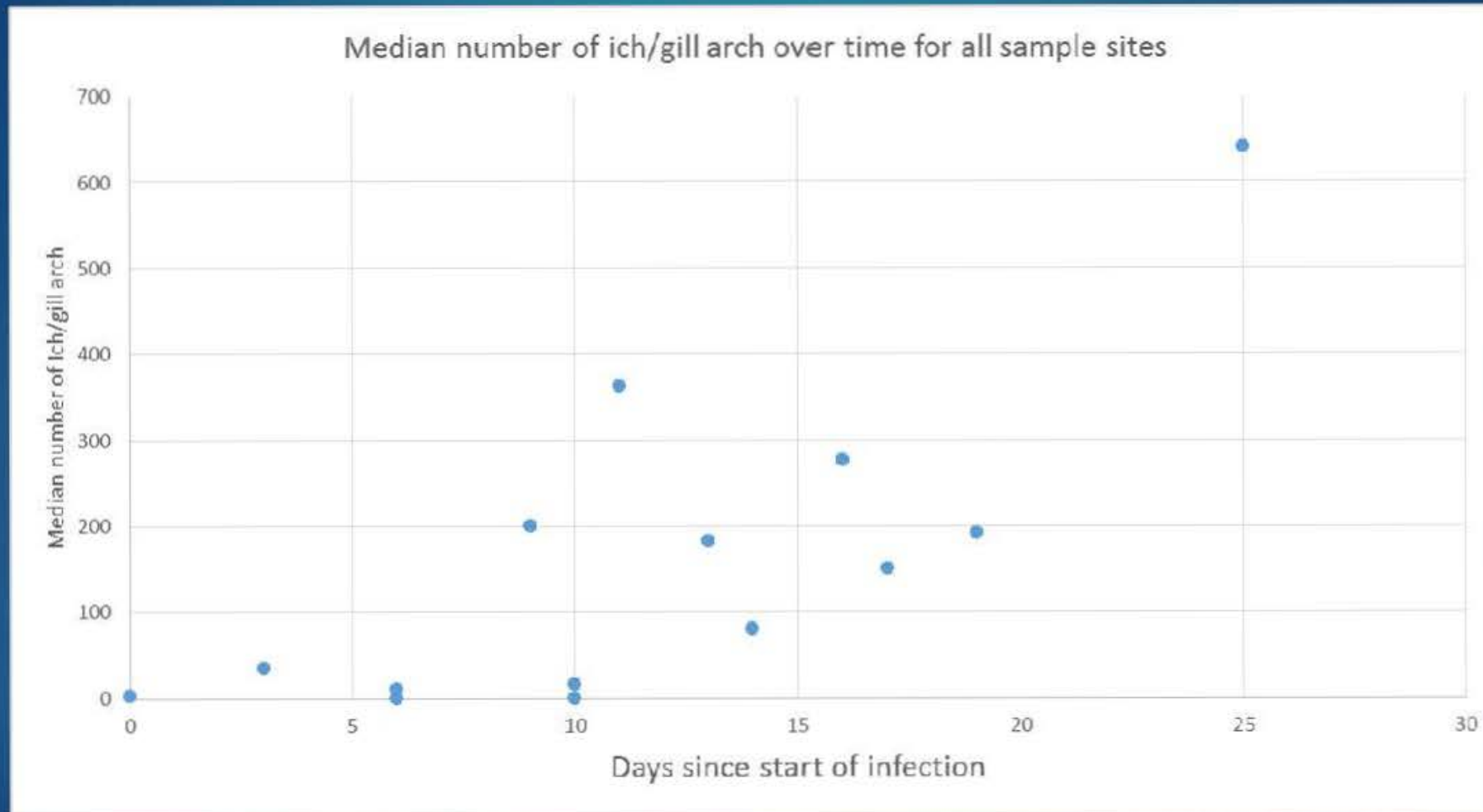


2014 Ich Sampling Objectives

- ▶ Geographic scope of ich
 - ▶ Karuk and HVT assistance (thank you)
- ▶ Temporal variation at a single location
- ▶ Overall picture
- ▶ Hampered by inability to obtain fish from above reservations

Results

- Ich increased exponentially on the Yurok Reservation



Sampling at IG and TR Hatcheries

- ▶ No fish had more than 8 ich / gill arch

| Location | Date | Sample size | Clean | proportion clean | Max Ich |
|-------------|------------|-------------|-------|------------------|---------|
| IG Hatchery | 10/14/2014 | 24 | 13 | 54% | 8 |
| IG Hatchery | 10/21/2014 | 24 | 13 | 54% | 6 |
| IG Hatchery | 10/29/2014 | 20 | 15 | 75% | 3 |
| TR Hatchery | 11/13/2014 | 20 | 11 | 55% | 3 |

EXHIBIT 13

YUROK TRIBAL FISHERIES PROGRAM

TECHNICAL MEMORANDUM

TO: WHOM IT MAY CONCERN
FROM: YUROK TRIBAL FISHERIES PROGRAM; KLAMATH RIVER DIVISION
SUBJECT: UPDATE ON PREVALENCE AND SEVERITY OF "ICH" INFECTIONS IN KLAMATH RIVER ADULT CHINOOK SALMON
DATE: SEPTEMBER 13, 2014

EXECUTIVE SUMMARY

As a result of the confirmed finding of *Ichthyophthirius multifiliis* (ich) in the Klamath River on 9/13 and 9/15 2014, the Yurok Tribal Fisheries Program (YTFP) sampled 75 adult Chinook salmon at varying locations from Weitchpec down to the Klamath River estuary to look for ich. Ich infection rates ranged from 100% at Weitchpec on September 22, 24th and 29th, to 25% on September 19 in the estuary (sample size of four fish). The sampling locations varied from the upper estuary near the old 101 bridge river at mile 2 to the Tectah and Blue Creeks (approximately river miles 15 and 18) to the Klamath River at Weitchpec above the confluence with the Trinity River (river mile 45) and the Trinity River above the confluence near Weitchpec on the Yurok Indian Reservation. The Karuk Tribe and the Hoopa Valley Tribe have done additional sampling further upriver, but those results are not presented here.

Infection rates and severe infection rates were highest at Weitchpec, reaching 100% of fish sampled on 9/22, 9/24 and 9/29/2014. Infection rates at the Blue/Tectah site jumped to 100% starting with the 9/26/2014 sample. Heavy infection rates jumped to over 60% of the fish sampled at that location.

Fish collected from the Trinity River are showing lower infection rates (67%) and severe infection rate (44%) than those from the Klamath River nearby (see paragraph above for Klamath River at Weitchpec results).

Water samples were also taken at several locations and filtered with a 5 micron micropore filter to extract DNA for further analysis. These samples were taken at the Trinity River above the confluence, the Klamath River above the confluence, Tully Creek and both above and below Blue Creek. These samples were shipped to Oregon State University in the near future for further analysis. Individual ich organisms were also collected for further DNA analysis. Additional water samples will be collected later this week.

INTRODUCTION

In 2002, a catastrophic fish kill event occurred in the Klamath River on the Yurok Indian Reservation. Although exact estimates varied, somewhere between 33,000 and 78,000 adult salmonids died. The primary cause of the fish kill was an epidemic outbreak of the disease *Ichthyophthirius multifiliis*, which is commonly known as "ich". Contributing factors were low flows and high densities of migrating adult salmonids including Chinook salmon, coho salmon and steelhead trout.

Yurok fisheries crews saw suspected ich in late August, and then again in early September. Imprints were taken, ich was confirmed, and the US Fish and Wildlife Service California-Nevada Fish Health Center was asked to come to the Yurok Reservation and confirm the results. The earlier YTFP results and the USFWS results are detailed in two memoranda issued on 9/16/14 by YTFP¹ and USFWS² and supplemented in a memo from YTFP on 9/22/2014.

Since the presence of ich was confirmed, YTFP crews have sampled in various location with two objectives:

1. Determine the geographic extent and severity of the ich outbreak in the lower Klamath;
2. Determine whether the ich prevalence is increasing or decreasing at specific locations.

The geographic extent of our sampling encompasses the Yurok Indian Reservation which stretches the lower 44 miles of the Klamath River from just above the confluence of these two rivers down to the ocean. We utilized three primary sample sites which were:

1. The Klamath River near Weitchpec above the Trinity River confluence.
2. The Trinity River near Weitchpec above the Klamath River confluence.
3. Blue/Tectah. These two samples sites are combined for analysis due to their proximity (about 3 miles apart). An additional sample was taken from about 15 miles upriver at Tulley Creek on 9/26/2014.
4. Upper Estuary near the old 101 bridge located about 2 miles from the mouth of the river in a primarily freshwater environment.

Fish were gillnetted, and the first gill arch from each side were inspected in the field using a dissecting scope. To obtain an ich count, the first gill arch on each side is excised using a pair of scissors or a sharp knife, and the surface of that gill arch is inspected front and back with a dissecting scope in the field after the clotted blood is carefully rinsed off. Gill arches collected from fish are put into baggies and kept on ice for more than 4 hours before ich counts were performed. The individual filaments of the gills are not spread apart to search between them, simply because there is not enough time to do so. Therefore, the counts should be interpreted as a “minimum” amount of ich present on the gill arches. Both first gill arches are inspected, and the maximum number of ich seen on either gill arch was reported. It is important to note that the ich numbers reported should be interpreted as an index.

Duplicate counts were performed on some gill arches, as well as additional time after the gill was in a baggie at cold temperatures in order to obtain estimates on how long the gills could be stored prior to counting ich organisms.

¹ Confirmed Presence of “Ich” on Klamath River Chinook Salmon; YTFP Technical Memorandum 9/16/2014

² Detection of *Ichthyophthirius multifiliis* in adult Chinook from lower Klamath River (rm 16). USFWS Technical Memorandum 9/16/2014

further upstream in the Klamath River and to closely monitor for mortalities, because ich loads continue to be extremely high with some fish having over 1000 ich/gill arch; far past the 30 per arch classified as “severe” by USFWS experts.

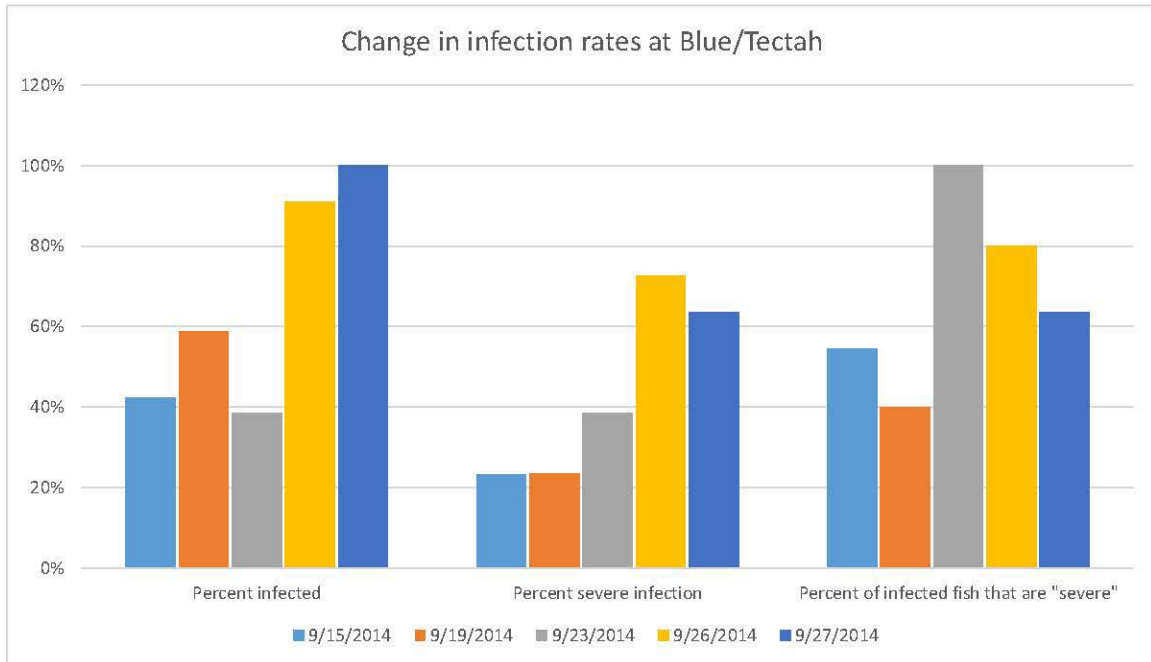


Figure 1: Change in infection rates at a combined sampling location on the lower Klamath River at Blue Creek and Tectah Creek (RM 16-19). Although a higher percentage of fish sampled on Sept 19 showed ich, the percentage of those fish rated as “severe” dropped from 55% to 42%. Sample size was 26 fish for the 9/15 sample and 17 fish for the 9/19 sample. NOTE: Sample on 9/26 taken at Tulley Creek, approximately river mile 30.

further upstream in the Klamath River and to closely monitor for mortalities, because ich loads continue to be extremely high with some fish having over 1000 ich/gill arch; far past the 30 per arch classified as “severe” by USFWS experts.

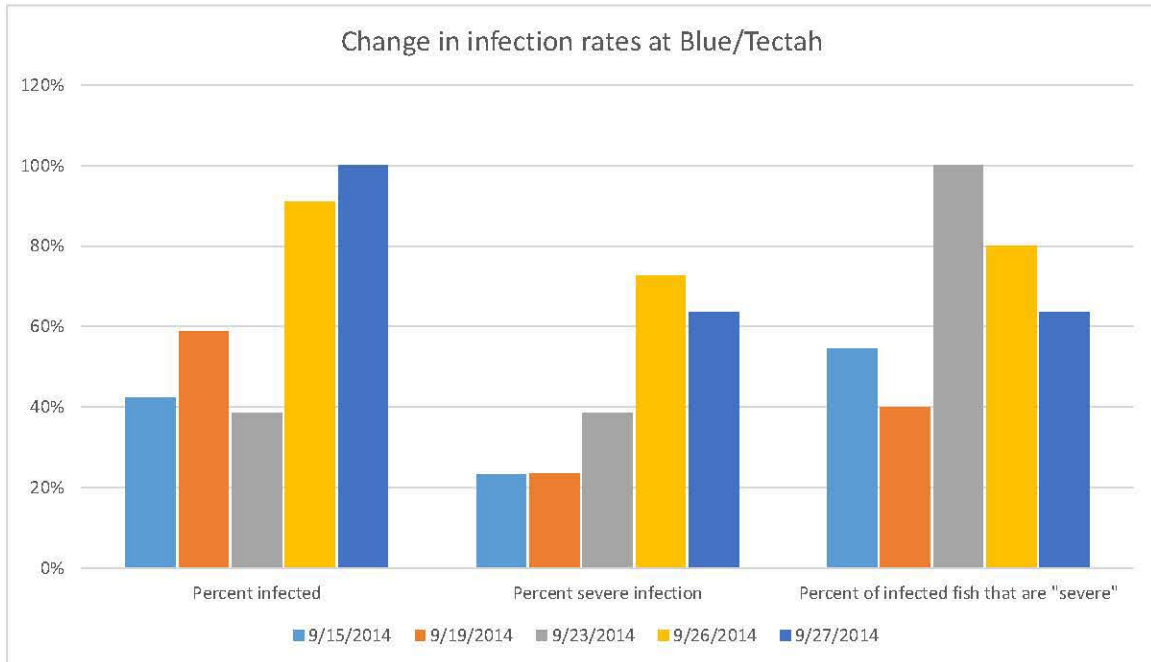


Figure 1: Change in infection rates at a combined sampling location on the lower Klamath River at Blue Creek and Tectah Creek (RM 16-19). Although a higher percentage of fish sampled on Sept 19 showed ich, the percentage of those fish rated as “severe” dropped from 55% to 42%. Sample size was 26 fish for the 9/15 sample and 17 fish for the 9/19 sample. NOTE: Sample on 9/26 taken at Tulley Creek, approximately river mile 30.

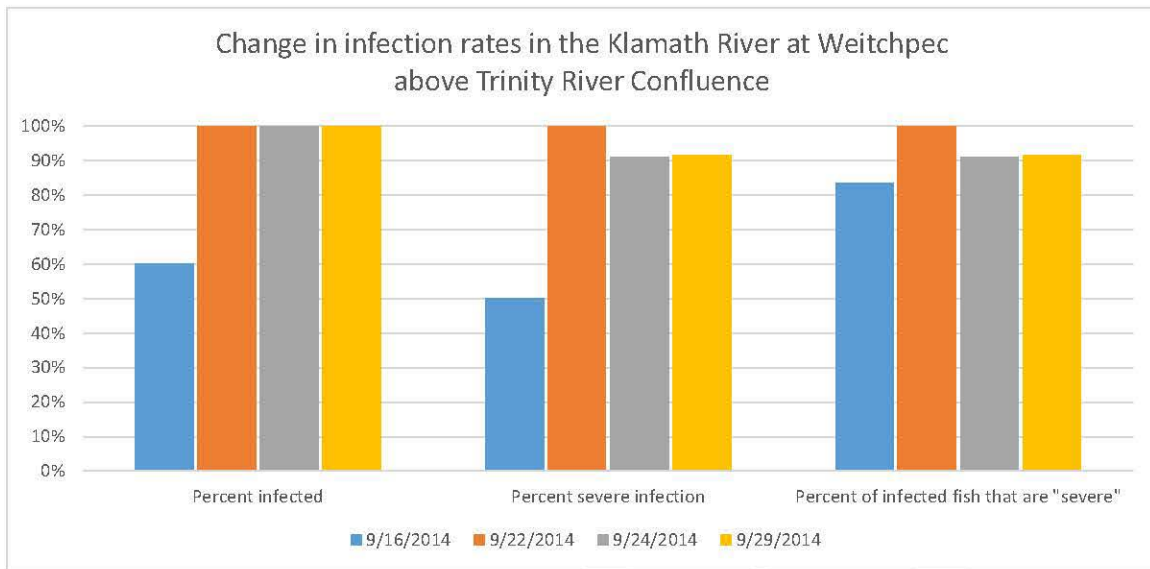


Figure 2: Change in infection rates at a combined sampling location on the lower Klamath River at Weitchpec above the Trinity River (RM 44). In four days, the severe infection rate went from 50% to 100%. Sample size was 10 fish on 9/16 and 9 fish on 9/22. On 9/15, only one fish had over 200 ich/gill arch. On 9/22, five of the 9 fish sampled had over 200 ich/gill arch.

On September 23, 2014, nine adult Chinook salmon were sampled from the Trinity River near Weitchpec above its confluence with the Klamath River. Of these fish, six had ich, and four of those were severe. Ich was less prevalent in Trinity River fish than in Klamath River fish near the same location.

SUMMARY

Ich levels increased in proportion infected and infection severity at all sample sites. Fish at the Blue/Tectah site (River mile 16-19) are showing a higher proportion with ich, and the percent with "severe" infections jumped to over 60% for the past two samples. At Weitchpec, particularly on the Klamath side, 100% of the fish have ich present, with over 90% of all fish sampled classified as "severe". Many fish had over 500 ich/gill arch, and the numbers continue to climb even as the main part of the run passes through on their way upstream. Trinity River numbers are lower with a 55% infection rate for fish sampled on 9/23/2014. Another Trinity River sample will be examined tomorrow (9/30/14).

The high prevalence of ich at severe levels leads us to believe that a fish mortality event may occur in the immediate future, and the evidence points to the Klamath mainstem above the Trinity River confluence as a probable location.

EXHIBIT 14



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
650 Capitol Mall, Suite 5-100
Sacramento, CA 95814-4700

OCT 3 2014

Mr. David Murillo
Regional Director
Bureau of Reclamation
2800 Cottage Way
Sacramento, California 95825

Re: Modifications of the Continuing Drought Response Measures under the Drought Operations Plan for the Central Valley Project and State Water Project from April 1 through November 15, 2014

Dear Mr. Murillo:

This letter is in response to the U.S. Bureau of Reclamation's (Reclamation) September 26, 2014, letter, wherein Reclamation proposes to modify its operations described in its April 8, 2014, Central Valley Project (CVP) and State Water Project (SWP) Drought Operations Plan (Plan) for April 1 through November 15, 2014. The Plan was developed in coordination with Reclamation, the California Department of Water Resources (DWR), U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, State Water Resources Control Board (State Water Board), and NOAA's National Marine Fisheries Service (NMFS, collectively "six agencies"). The Plan outlines a likely range of coordinated operations for the CVP and SWP through November 15, 2014, including modifications, as deemed prudent under the current low storage conditions, to several reasonable and prudent alternative¹ (RPA) actions from NMFS' June 4, 2009, biological and conference opinion on the long-term operation of the CVP and SWP (NMFS 2009, NMFS BiOp).

Reclamation now requests concurrence from NMFS that the modified drought response actions currently proposed by Reclamation during the beginning of Water Year (WY) 2015, will have roughly equivalent effects as what was previously analyzed and will result in a level of take that is within the limits of the existing Incidental Take Statement from the NMFS BiOp. This letter represents NMFS' analysis of whether or not the proposed modifications to the Plan will result in effects greater than already analyzed in the Plan, which serves as the Contingency Plan in accordance with RPA Action 1.2.3.C in the NMFS BiOp.

NMFS understands that California is continuing to experience unprecedented drought conditions, and is currently in its third straight year of below-average rainfall and very low snowpack. Calendar year 2013 was the driest year in recorded history for many parts of California, resulting in the low initial storage at the beginning of WY 2014. On January 17, 2014, the Governor of California announced an Emergency Proclamation, finding that "conditions of extreme peril to the safety of persons and property exist in California due to water shortage and drought

¹ On April 7, 2011, NMFS issued an amended RPA (http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/Operations.%20Criteria%20and%20Plan/040711_ocap_opinion_2011_amendments.pdf).



conditions.” Since that declaration, NMFS has acted to provide the assistance needed to manage through drought conditions in California. NMFS has continued to work quickly and collaboratively with the other fish agencies and the operators of the CVP and SWP to protect health and safety while providing needed protections for and minimizing adverse effects to listed anadromous fish species under the Endangered Species Act (ESA), as demonstrated in the exchange of letters² in January, February, March, and April regarding requested changes in specific operating parameters.

The implementation of the Plan was supported by NMFS as a reasonable approach to minimize adverse effects to species given the constraints of WY 2014. With the continued severe drought conditions experienced over the summer of 2014, Reclamation has proposed to add the following modifications to the April 8, 2014, Plan under Section VII. Proposed Delta Operations – June Through November 15:

E. San Joaquin River Flows at Vernalis and Water Transfer Window

- D-1641 San Joaquin River flows at Vernalis
 - Reduce the month-long average fall attraction base flows from 1,000 cubic feet per second (cfs) to 800 cfs for 31 days.
 - This action will occur between October 1, 2014 and November 15, 2014, with the release schedule starting date to be based on recommendations from the fish agencies.
- Water transfer window
 - Extend the water transfer window through November 15, 2014, to allow for the conveyance of approximately 75,000-90,000 acre feet (AF) of transfer water (excluding the loss of carriage water) that has been retained in Shasta and Folsom reservoirs for diversion from the south Delta Federal facilities at the Jones Pumping Plant.
 - Incorporate the alerts and triggers related to the presence of listed threatened or endangered fish species from the NMFS BiOp that will reduce or suspend conveyance of transfer water while listed fish movement is assessed (based on recommendations from the state and federal fish agencies using monitoring triggers and alerts in RPA action IV.1.1).

The Plan developed in April 2014, anticipated the necessity to make further modifications to the operations of the SWP and CVP based on continually changing hydrological and biological information with the passage of time. Reclamation indicates that the proposed modifications for fall operations in 2014 are based on current environmental conditions that were not known in the spring of 2014 during the development of the Plan. Although spring CVP water transfers were considered by Reclamation, they failed to occur due to restrictive operational constraints required by the ongoing drought conditions and the difficulty of managing the cold-water pool in Shasta and Folsom reservoirs over the summer. Reclamation believes that the DWR will complete its water transfers within the SWP by October 1, 2014, thus the proposed Plan modifications extending the water transfer window will only apply to the diversion and transfer of water within the federal CVP facilities.

² All NMFS letters regarding 2014 drought operations are posted online under “Biological Opinion Actions” at: http://www.westcoast.fisheries.noaa.gov/central_valley/water_operations/

Reclamation intends to submit a revised Temporary Urgency Change Petition (TUC) Petition to the State Water Board to specifically modify the October flows in the San Joaquin River, as measured at Vernalis, resulting in a decrease in the average monthly flows from 1,000 cfs to 800 cfs for a period of 31 days. The conditions forecasted by Reclamation for storage in New Melones Reservoir in March 2014, have not been realized, and the storage volume is less than anticipated. Currently (September 29, 2014), the storage volume of New Melones reservoir is 520,010 AF which is 22% of total reservoir storage capacity and 39% of the historical average volume for this date. Reservoir releases from New Melones Reservoir comprise the majority of San Joaquin River flows at Vernalis. Therefore, Reclamation's request to reduce the average monthly flows required by D-1641 at Vernalis for the month of October will reduce the diminishment of water storage in New Melones Reservoir during this period.

The area that will be affected by the proposed modifications to the DOP includes the following geographic locations:

- 1.) The Sacramento River downstream of Keswick Dam to the Delta,
- 2.) The waterways of the Delta,
- 3.) The American River downstream of Nimbus Dam to its confluence with the Sacramento River,
- 4.) The Stanislaus River downstream of Goodwin Dam to its confluence with the San Joaquin River, and
- 5.) The San Joaquin River downstream of its confluence with the Stanislaus River to the Delta.

Table 1 identifies the species and life stages that are expected to be present in the area that will be affected by the proposed modifications to the DOP.

Table 1. Listed Species and life stages present in the area that will be affected by the proposed modifications to the DOP.

| Species | Status | Life Stage in Action Area |
|--|--------|------------------------------|
| Central Valley spring-run Chinook salmon (<i>Oncorhynchus tshawytscha</i>) | FT, ST | Adults, eggs |
| Sacramento River winter-run Chinook salmon (<i>O. tshawytscha</i>) | FE, SE | Eggs, fry |
| California Central Valley steelhead (<i>O. mykiss</i>) | FT | Parr, adults |
| North American green sturgeon (<i>Acipenser medirostris</i>), Southern Distinct Population Segment | FT | Juveniles, sub-adult, adult, |

Reclamation has conducted a Biological Review which includes species status updates on the abundance and distribution in WY 2014 of ESA-listed salmonids and sturgeon covered by the NMFS BiOp, and summarizes the generalized effects of project operations, including most of the proposed modifications, on those species. Inherent in the Plan is the objective to meet multiple needs with limited water resources. The proposed modifications to the Plan will have the potential to affect listed species due to changes in tributary flow patterns and Delta exports. NMFS incorporates this document by reference, and supplements it with additional data or analyses, as provided below.

Winter-run Chinook salmon

Sacramento River mainstem: Releases from Keswick Dam into the upper Sacramento River have been approximately 5,000 cfs for the last week of September 2014, and have declined steadily over the past 90 days from over 10,000 cfs, as measured at Keswick Dam (see Figure 1) in July. Daily average water temperatures exceeded the temperature compliance criterion of 56°F for over half of August and from September 3, 2014, to the present at the Clear Creek temperature compliance point on the Sacramento River. Daily variation in the water temperatures at the Clear Creek water quality gauge location was substantial, with the range between minimum and maximum values reaching 10°F by September (see Figure 2). Currently, the remaining winter-run eggs and any emergent alevins still in the gravel will be subjected to warmer interstitial water temperatures than believed optimal for their growth and survival. Warmer water temperatures can lead to increased mortality, deformities, and disease in the exposed eggs and alevins.

In 2014, aerial redd surveys detected all of the 2014 winter-run Chinook salmon redds to be upstream of the 2014 water temperature compliance point at the Clear Creek temperature monitoring station. The first spawning activity was observed at the end of May, 2014, and no new spawning activity has been observed after the August 8, 2014, survey. Winter-run fry are estimated to have begun emerging from their redds by August 13, 2014, from the initial spawning activity observed in May. Winter-run Chinook salmon fry continue to emerge from redds and brood year 2014 fish are starting to be observed in fish monitoring at Red Bluff Diversion Dam. Emergence timing for winter-run was calculated based on water temperatures at the above Clear Creek temperature gauge and the spawning timing from aerial redd surveys. Water temperatures at this location, which is ten miles below Keswick Dam, are very close to those released at Keswick, so they are an accurate approximation of temperatures in the areas of incubating winter-run eggs. Approximately 30% of the alevins are predicted to still be in the gravel at the beginning of October when the water transfers are proposed to begin and will be exposed to this warmer water. The majority of the alevins should have emerged from the gravel by October 18, with expected emergence from all redds by November 7 (Table 2).

The proposed transfer water releases are expected to result in river flows between 3,250 and 6,000 cfs, based on Reclamation's Biological Review, and that these flows will have water temperatures in excess of 56°F due to current reservoir conditions and the status of the remaining cool water pool. Given the temperatures of the reservoir releases, the impacts to winter-run eggs and alevins still in the gravel will be mitigated to the greatest extent practicable through the real time coordination of the fish agencies and the Real Time Drought Operations Management Team to make operational decisions, as described in Reclamation's letter and Biological Review. NMFS expects that this coordination will reduce impacts to a level that is compliant with the incidental take associated with the Plan. The releases of transfer water are not expected to create situations resulting in redd dewatering of winter-run Chinook salmon or create flow pulses that induce downstream migration over the normal levels currently observed.

Table 2. Estimation of winter-run Chinook fry emergence timing in 2014.

| Spawned by Date BY 2014 (from aerial surveys) ¹ | 5-30 | 6-5 | 6-12 | 6-19 | 6-27 | 7-2 | 7-9 | 7-17 | 7-25 | 7-31 | 8-7 | 8-22 |
|---|------|------|------|------|------|------|------|------|------|-------|-------|----------|
| Fry emerged by date (from Sac R. above Clr Crk H ₂ O Temps and 1000 ATU (C°)) | 8-13 | 8-19 | 8-26 | 9-2 | 9-9 | 9-14 | 9-21 | 9-28 | 10-5 | 10-11 | 10-18 | |
| Redds | 7 | 3 | 15 | 1 | 8 | 30 | 26 | 19 | 8 | 7 | 3 | No redds |
| Proportion of Redds | 6% | 2% | 12% | 1% | 6% | 24% | 20% | 15% | 6% | 6% | 2% | |
| Cumulative Redds | 7 | 10 | 25 | 26 | 34 | 64 | 90 | 109 | 117 | 124 | 127 | |
| Cumulative proportion | 6% | 8% | 20% | 20% | 27% | 50% | 71% | 86% | 92% | 98% | 100% | |
| Calculations used actual water temperatures through 9-11-14 and daily temps of 14°C after 9-11-14 | | | | | | | | | | | | |

¹Three additional redds were detected after 8/22 with estimated emergence dates of 10/27, 10/31, and 11/7/2014.

Spring-run Chinook salmon

Sacramento River mainstem: The proposed Shasta Reservoir water transfer will augment flows in the Sacramento River between October 1 and November 15. However, based on current data, the temperature of released water will exceed the temperatures required for optimal survival and development of incubating spring-run eggs through this period, due to the reduction of the cold water pool in Shasta Reservoir to maintain downstream water temperatures for incubating winter-run eggs earlier in the season. The increase in released water temperature is not a function of the proposed water transfers, but a condition pertaining to the ongoing drought and the reduction of the cold water pool in Shasta Reservoir to maintain suitable conditions for winter-run Chinook salmon. The proposed transfer water releases are expected to result in river flows between 3,250 and 6,000 cfs based on Reclamation's Biological Review and that these flows will have water temperatures in excess of 56°F due to current reservoir conditions and the status of the remaining cool water pool. Given the temperatures of the reservoir releases, the impacts to spring-run eggs in the gravel will be mitigated to the greatest extent practicable through the real time coordination of the fish agencies and the Real Time Drought Operations Management Team to make operational decisions. NMFS expects that this coordination will reduce impacts to a level that is compliant with the incidental take associated with the Plan.

Delta: Should precipitation events occur during the proposed transfer window which stimulate downstream emigration of yearling spring-run Chinook salmon from their natal tributaries and into the mainstem Sacramento River, the RPA Actions IV.1 and IV.3 are in place to provide protection to these fish during the proposed modifications to the Plan. Since the brood year 2014 spring-run Chinook salmon eggs will still be in the gravel in the upper Sacramento River during the proposed water transfer window, actions in the Delta related to the water transfers are not expected to have any influence or impacts to these fish.

California Central Valley Steelhead

Lower Stanislaus River and San Joaquin River: The proposed reduction in the 31-day average flow at Vernalis occurs during the period when California Central Valley steelhead are migrating

into the system. Ambient water conditions are warmer in the San Joaquin Basin than is considered optimal for the development of eggs in female steelhead. Therefore, since female steelhead are migrating while egg development is still occurring, there is the potential for reduced egg viability due to exposure to warmer water temperatures. However, the proposed modification to the D-1641 San Joaquin River flows at Vernalis is not predicted to result in measureable temperature-related effects to egg viability than would normally occur for adult steelhead migrating through the Delta and lower San Joaquin River system in typical years. Reclamation considered this reduction in egg viability to have low uncertainty since reduced egg viability in female steelhead associated with high water temperatures have not been observed in the San Joaquin River basin. However this has not also been the subject of directed studies in the basin and may be a factor. Based on historical Stanislaus River weir data (2008-2013), it is predicted that on average, adult migration occurring between October 1 and November 15 will account for approximately 20% of WY 2015 total escapement; therefore, the proportion of the migrating population exposed to the reduced Vernalis flows that could experience reduced egg viability or straying is on average 20% (but likely less in consideration of a 31-day average flow at Vernalis during the October 1 through November 15 timeframe). Given that the proposed modifications to the 31-day average flow at Vernalis will not affect the temperature of water releases at New Melones Reservoir or the natural cooling of the water to ambient air temperature in the tributaries and lower San Joaquin River beyond that typically observed, the proposed modification should not result in any discernable effects to water temperature.

Southern DPS of North American Green Sturgeon

Sacramento River mainstem: Within the mainstem of the Sacramento River, the additional flows created by the release of water transfers from Shasta Reservoir are unlikely to alter the behavior of the different life stages of green sturgeon occupying this habitat. Adult green sturgeon that have not already left the basin and travelled down river to the marine environment following spawning, will likely hold in upriver pools until winter precipitation events and cooler water conditions occur. Post-spawn fish may hold for several months in the Sacramento River and out migrate in the fall, or move into and out of the river quickly during the summer months, although the holding behavior is the behavior that is most commonly observed (Heublein *et al.* 2009). Acoustic tagging studies on the Rogue River (Erickson *et al.* 2002) have shown that adult green sturgeon will hold for as much as 6 months in deep (> 16 feet), low gradient reaches or off channel sloughs or coves of the river during summer months when water temperatures were between 59°F and 73.4°F. When ambient temperatures in the river dropped in autumn and early winter (<50°F) and flows increased, fish moved downstream and into the ocean. The release of transfer water is unlikely to move adult fish downriver due to the change in water temperature in the sections of the Sacramento River occupied by the post-spawn fish. Likewise, juvenile green sturgeon are not likely to be moved down into the Delta by this release of water. Typically, juvenile green sturgeon will drift downriver following after hatching, but then hold in upriver locations during the winter prior to finishing their migration to the Delta. Kynard *et al.*'s (2005) laboratory studies indicated that juvenile fish continued to migrate downstream at night for the first 6 months of life. When ambient water temperatures reached 46.4°F, downstream migrational behavior diminished and holding behavior increased. These data suggest that 9- to 10-month old fish would hold over in their natal rivers during the ensuing winter following hatching, but at a location downstream of their spawning grounds. It is not likely that the

increase in flows related to the transfer water will either reduce the ambient water temperature sufficiently to cause emigration or be of sufficient volume to move fish downriver by behavioral cues.

Delta: It is likely that juvenile (older than 1 year), sub-adults and adults will be in the Delta during the transfer window period. Juvenile and sub-adult fish may occupy the Delta year round and juveniles may spend up to three years rearing in the Delta prior to making the transition to the marine phase of their life history. The projected increase in exports associated with the Proposed Project are within the range of exports normally seen in the Delta over the course of a year and would not be anticipated to create an unusual condition for these fish that would alter their entrainment risk or movements within the Delta waterways that would be uniquely different than those that were assessed in the NMFS BiOp.

Conclusion

Reclamation concluded in its Biological Review, that cumulatively, the extension of the water transfer window until November 15, 2014, the transfer of up to 90,000 AF of water, the reduction in the month-long average of the D-1641 Vernalis flow standard, and implementing the 31-day average between October 1, 2014 and November 15, 2014, will not result in any adverse effects in the action area that were not already within the effects analyzed in the NMFS BiOp.

NMFS supports the general findings and conclusions drawn by Reclamation in its Biological Review, though notes that its effects analyses are, for the most part, considered as single parameters affecting the fish rather than effects acting in concert. It is difficult to assess the cumulative effect of the proposed modifications to the Plan because of the uncertainties described in the analysis, particularly the effects of future weather patterns and the uncertainties regarding air temperature and precipitation events. NMFS supports in general the implementation of the Plan as a reasonable approach to minimize adverse effects to listed species given the constraints of this water year, including the actions proposed to modify the Plan in Reclamation's September 26, 2014 letter. Nevertheless, NMFS is concerned that the current environmental conditions in the Central Valley will create conditions that reduce the level of egg and alevin survival for spring-run Chinook salmon spawning in the upper Sacramento River below Keswick Dam. Close coordination between Reclamation and the fish agencies is required to balance the desire to transfer water and not degrade water temperature and flow conditions for these fish to the greatest extent possible given the overlying environmental conditions. Likewise, environmental conditions in the San Joaquin River basin area also necessitate the same cooperation between agencies to achieve desirable outcomes. As environmental conditions change to provide more hospitable migratory water temperatures, attraction flows and base flows become more critical to migratory success for salmonids, including the listed California Central Valley steelhead in the San Joaquin River basin. NMFS re-emphasizes that Reclamation should continue to work with the fish agencies on a real-time basis to manage the Central Valley operations to meet the needs of listed fish populations to the greatest extent practicable, as well as utilizing the Real Time Drought Operations Management Team to manage the Drought Operations Plan during these trying drought conditions.

Based on Reclamation's Biological Review, supplemented by the additional data or analyses, above, NMFS has determined that the anticipated incidental take associated with the proposed modifications to the drought operations plan, falls within the incidental take statement issued as part of the NMFS BiOp.

We look forward to continued close coordination with you and your staff throughout these extremely challenging drought conditions in WY 2015. If you have any questions regarding this letter, please contact me at will.stelle@noaa.gov, (206) 526-6150, or contact Maria Rea at (916) 930-3600, maria.rea@noaa.gov.

Sincerely,


William W. Stelle, Jr.
Regional Administrator

cc: Copy to file 151422SWR2006SA00268

Pablo Arroyave
Deputy Regional Director
Bureau of Reclamation
2800 Cottage Way
Sacramento, California 95825
Sue Fry
Bureau of Reclamation
801 I Street, Suite 140
Sacramento, California 95814

Ron Milligan
Operations Manager
Bureau of Reclamation
3310 El Camino Avenue, Room 300
Sacramento, California 95821

John Leahigh
California Department of Water Resources
3310 El Camino Avenue
Sacramento, California 95821

Chuck Bonham
Director
California Department of Fish & Wildlife
1416 Ninth Street
Sacramento, California 95814

Carl Wilcox
Policy Advisor to the Director for the Delta
California Department of Fish & Wildlife
1416 Ninth Street
Sacramento, California 95814

Mark Cowin
Director
California Department of Water Resources
P.O. Box 942836
Room 115-2
Sacramento, California 94236

Laura King-Moon
California Department of Water Resources
P.O. Box 942836
Room 115-2
Sacramento, California 94236

Dean Messer
Chief, Environmental Services
California Department of Water Resources
P.O. Box 942836
Sacramento, California 94236

Ren Lohofener
Regional Director
US Fish & Wildlife Service
2800 Cottage Way, W-2606
Sacramento, California 95825

Dan Castleberry
Assistant Regional Director, Water and Fishery Resources
US Fish & Wildlife Service
2800 Cottage Way
Sacramento, California 95825

Michael Chotkowski
Field Supervisor
US Fish & Wildlife Service
650 Capitol Mall, Suite 8-300
Sacramento, California 95814

Felicia Marcus
State Water Resource Control Board
P.O. Box 100
Sacramento, California 95812

Tom Howard
State Water Resource Control Board
P.O. Box 100
Sacramento, California 95812

Les Grober
Assistant Deputy Director
Division of Water Rights
State Water Resources Control Board
Sacramento, CA 95812-2000

Diane Riddle
Environmental Program Manager
Hearings and Special Programs Section
Division of Water Rights
State Water Resources Control Board
Sacramento, CA 95812-2000

References:

Erickson, D.L., J.A. North, J.E. Hightower, J. Weber, L. Lauck. 2002. Movement and habitat use of green sturgeon *Acipenser medirostris* in the Rogue River, Oregon, USA. *Journal of Applied Ichthyology* 18:565-569.

Heublin, J.C., J.T. Kelly, C.E. Crocker, A.P. Klimley, and S.T. Lindley. 2009. Migration of green sturgeon, *Acipenser medirostris*, in the Sacramento River. *Environmental Biology of Fish* 84:245-258.

Kynard, B., E. Parker, and T. Parker. 2005. Behavior of early life intervals of Klamath River green sturgeon, *Acipenser medirostris*, with note on body color. *Environmental Biology of Fishes* 72:85-97.

NMFS 2009. Biological opinion for the long-term operations of the Central Valley Project and State Water Project. National Marine Fisheries Service. Southwest Region, Long Beach, California. June 4, 2009. 844 pp + appendices.

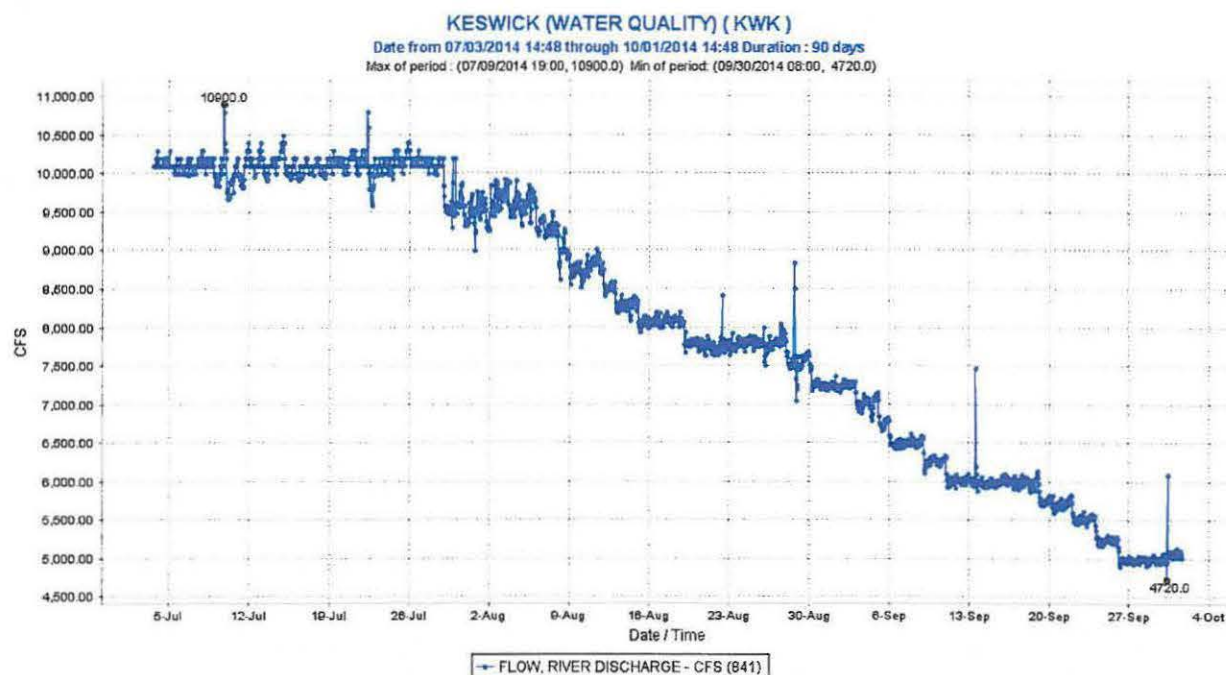


Figure 1. 90-day river discharge flows below Keswick Dam (July 3– October 1, 2014).
 Available at: http://cdec.water.ca.gov/cgi-progs/staMeta?station_id=KWK.

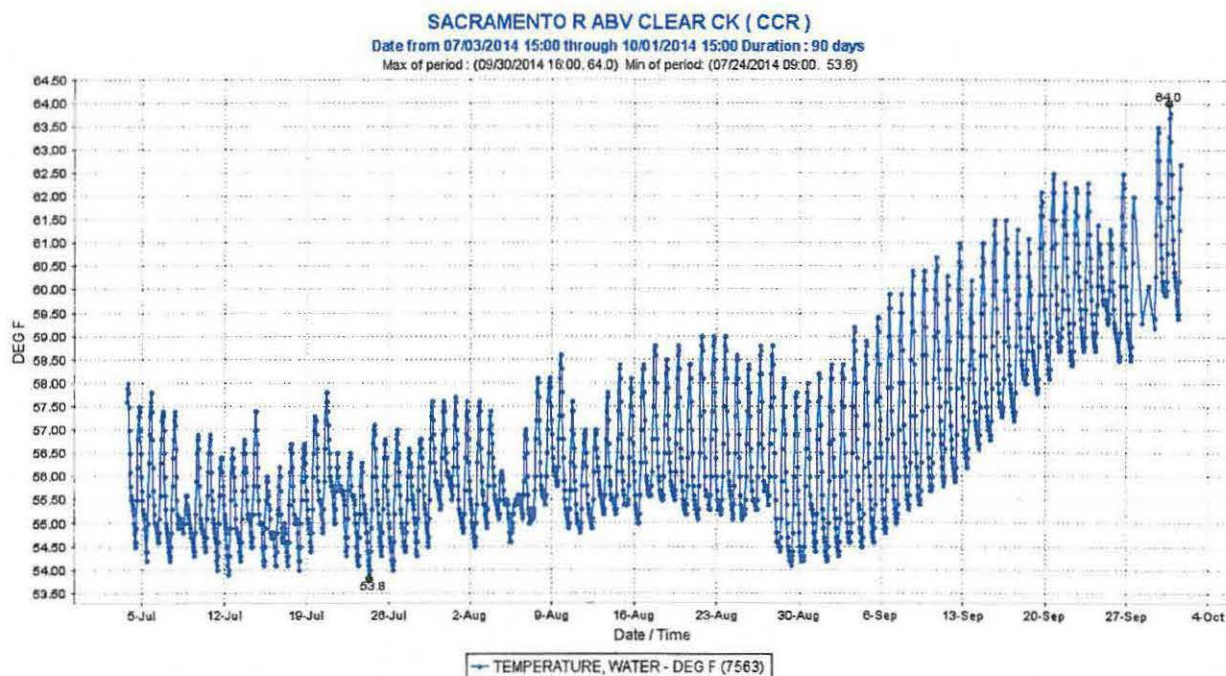


Figure 2. 90-day Sacramento River water temperatures above Clear Creek confluence (July 3 – October 1, 2014). Available at: http://cdec.water.ca.gov/cgi-progs/staMeta?station_id=CCR.

EXHIBIT 15

Effects of Drought and CVP/SWP Operations on Fish - A Fish Agency Overview



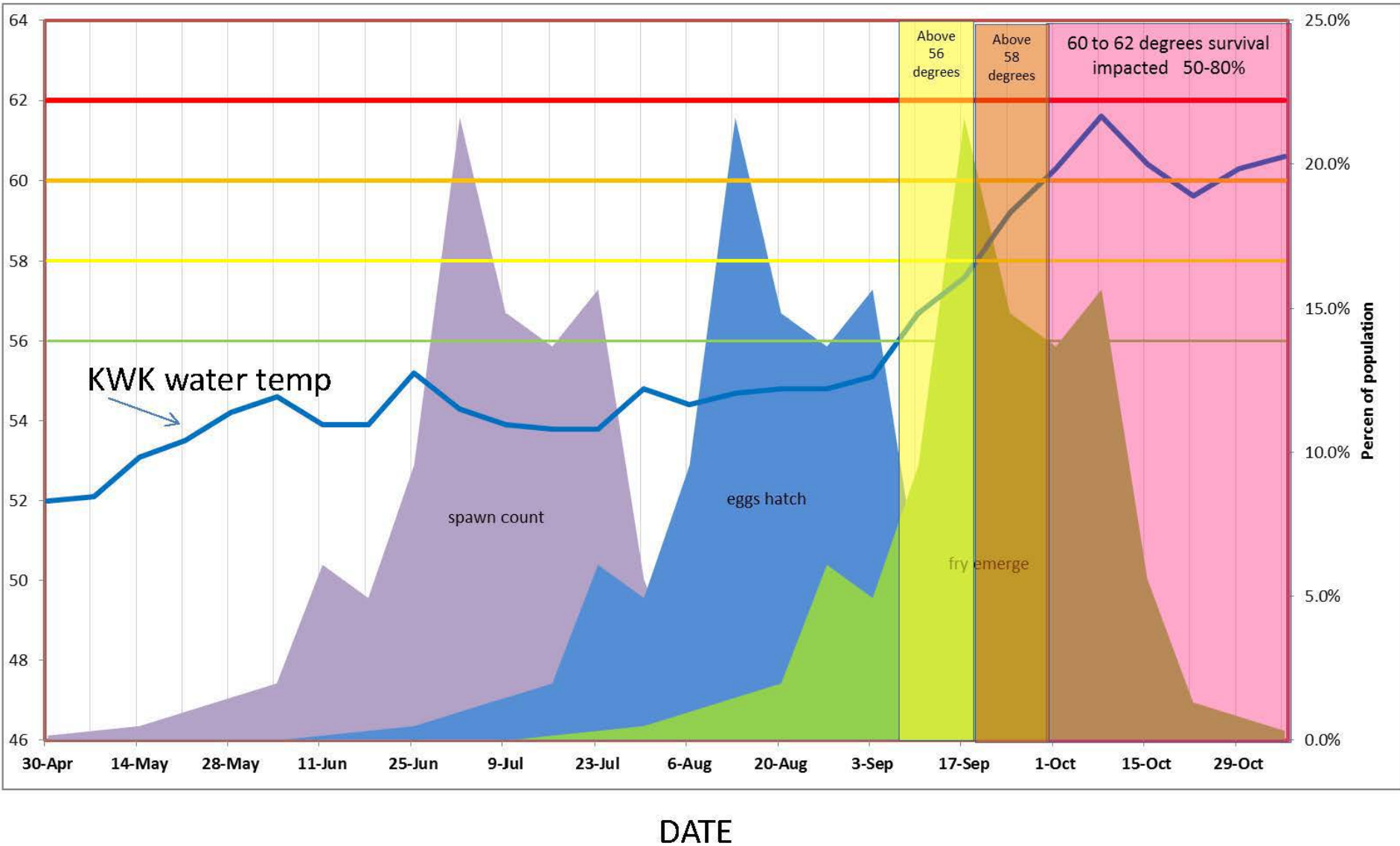
Operation and Monitoring Actions conducted in 2014

- Smelt
- Temperature Management
- Flow Management
- Delta Cross Channel
- OMR & Exports

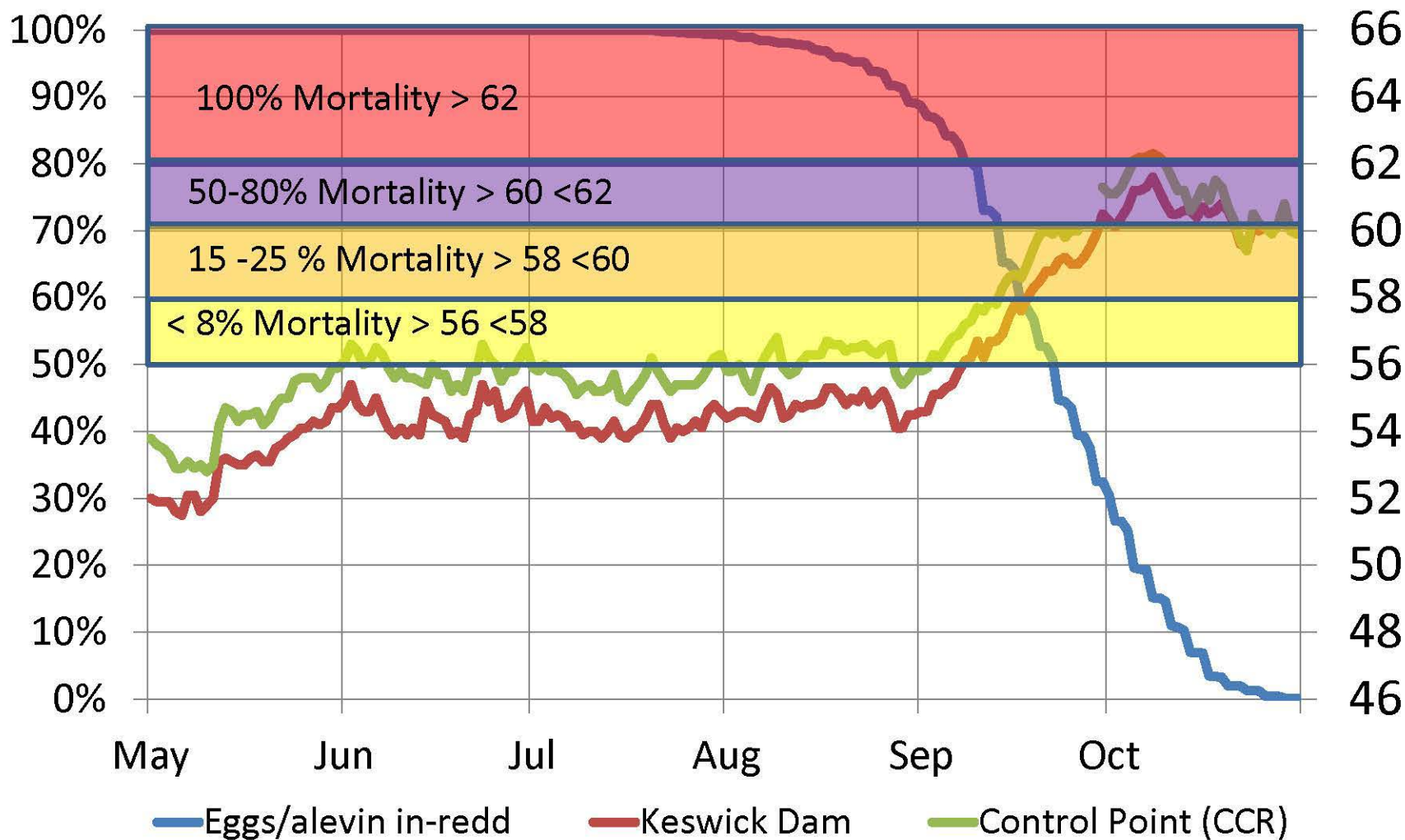
Sacramento and American River Temperature Management

- Temperature management is critical throughout egg/alevin incubation
- Winter-run peak spawning typically occurs in Sacramento River in May and June
 - Egg to fry emergence is ~80 days
- Fall-run peak spawning typically occurs in November in both the Sacramento and American rivers

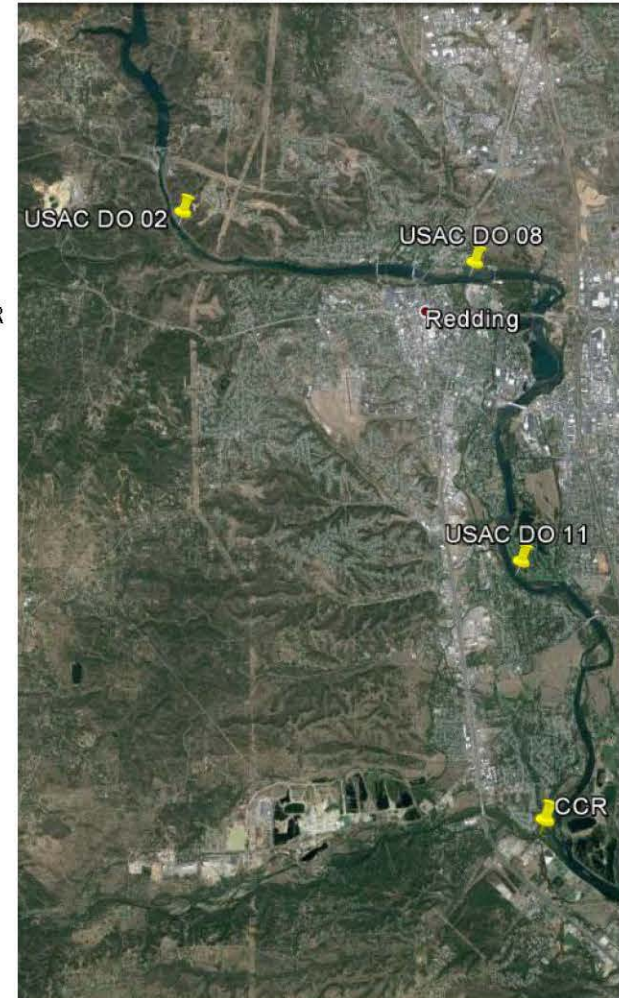
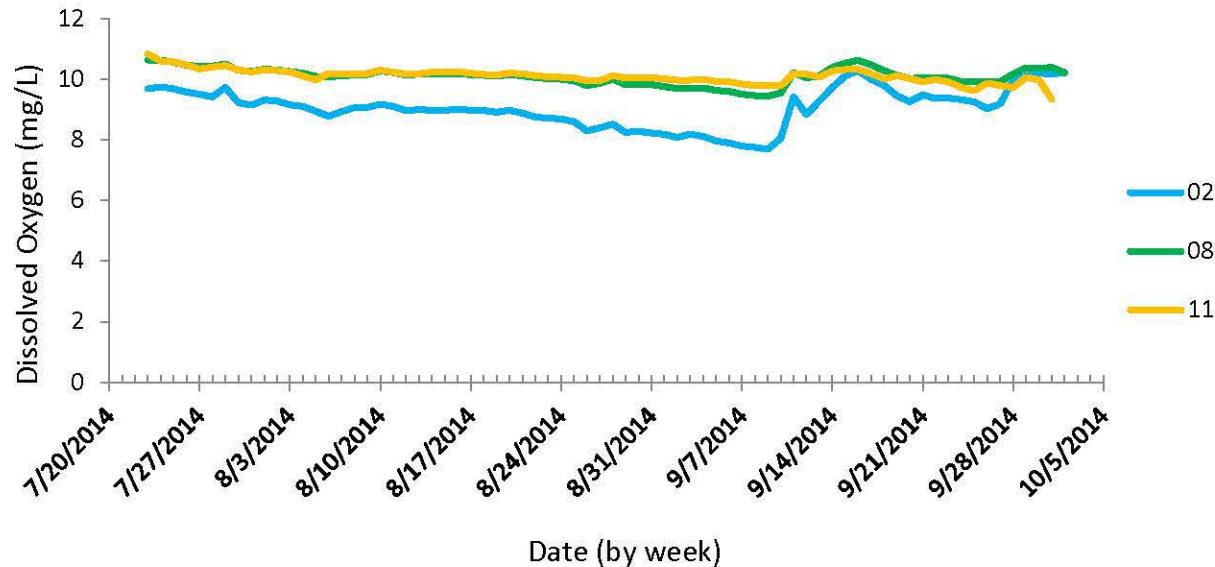
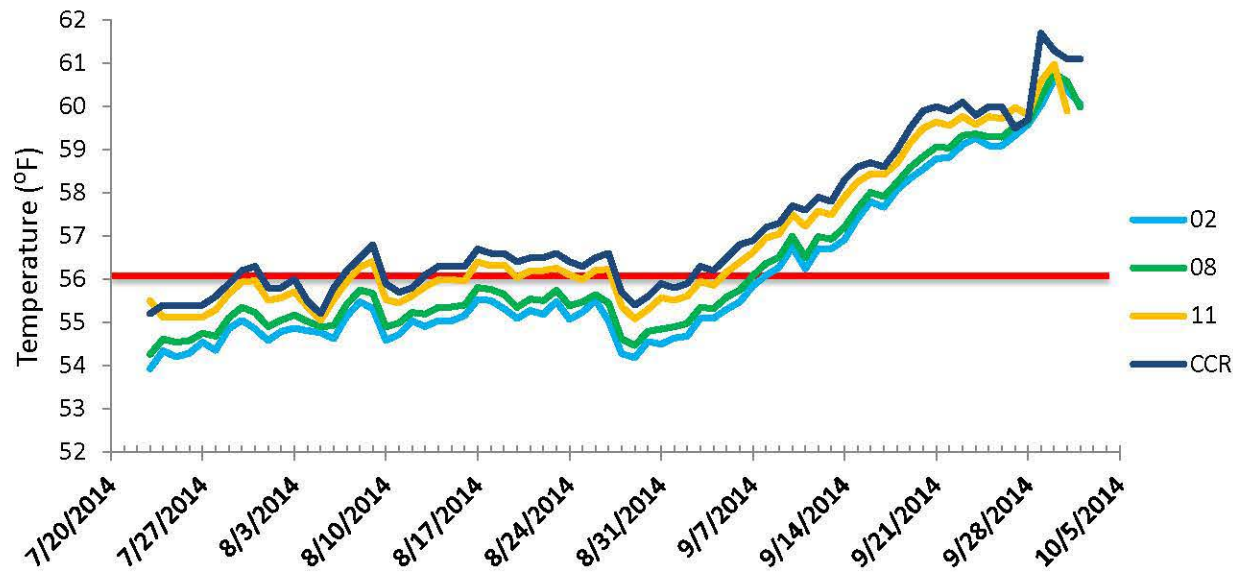
Potential Impacts to 2014 Winter-Run Life Stages due to Water Temperatures in the Upper Sacramento River



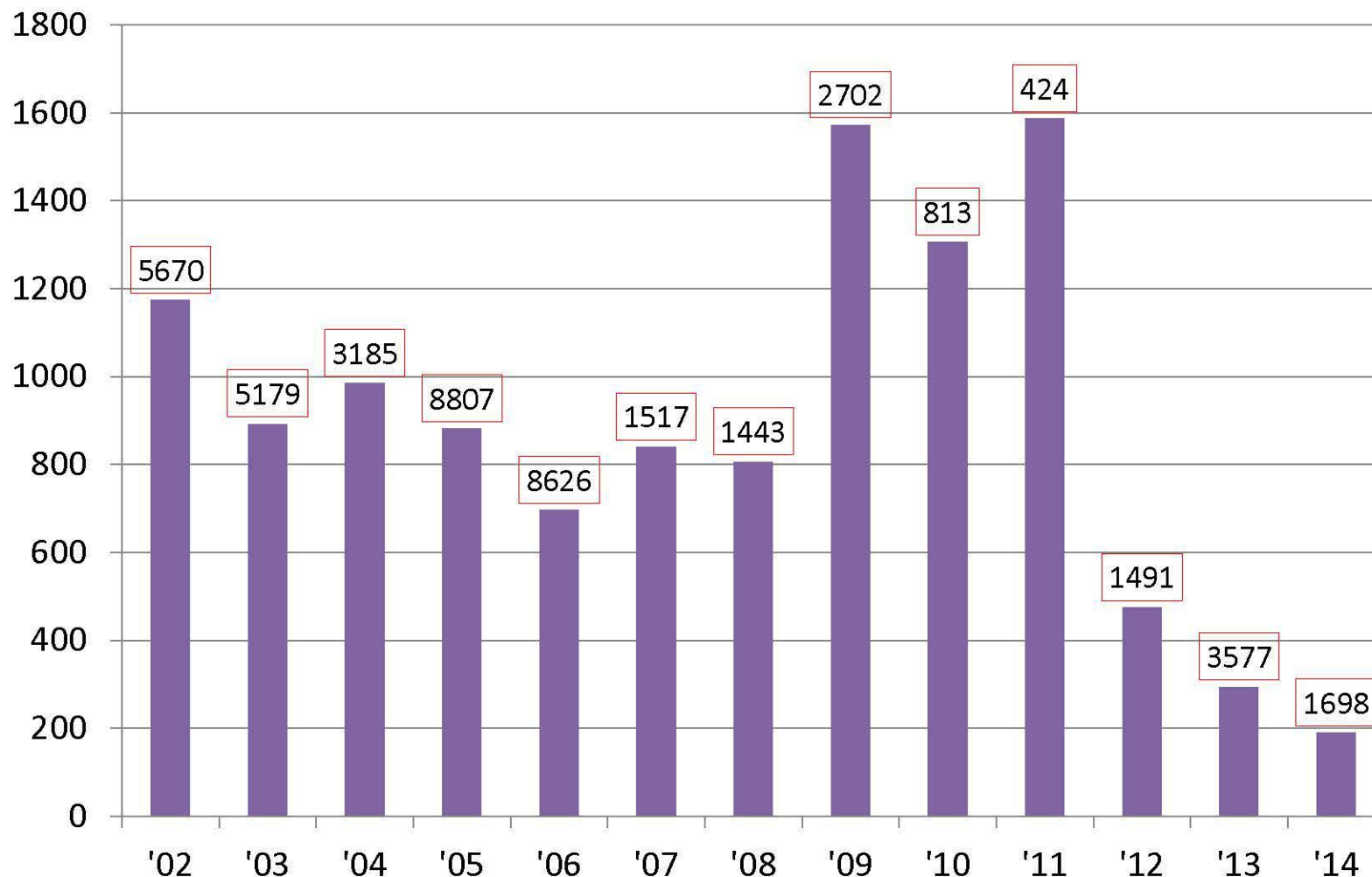
2014 Winter-run Egg Temperature Mortality- Sacramento River



Daily average substrate level temperatures and dissolved oxygen readings in the Upper Sacramento River - 2014



Winter run Juveniles Passing Red Bluff per female spawner
through Nov 4 for the years 2002-2014
Box value is number of Female Spawners



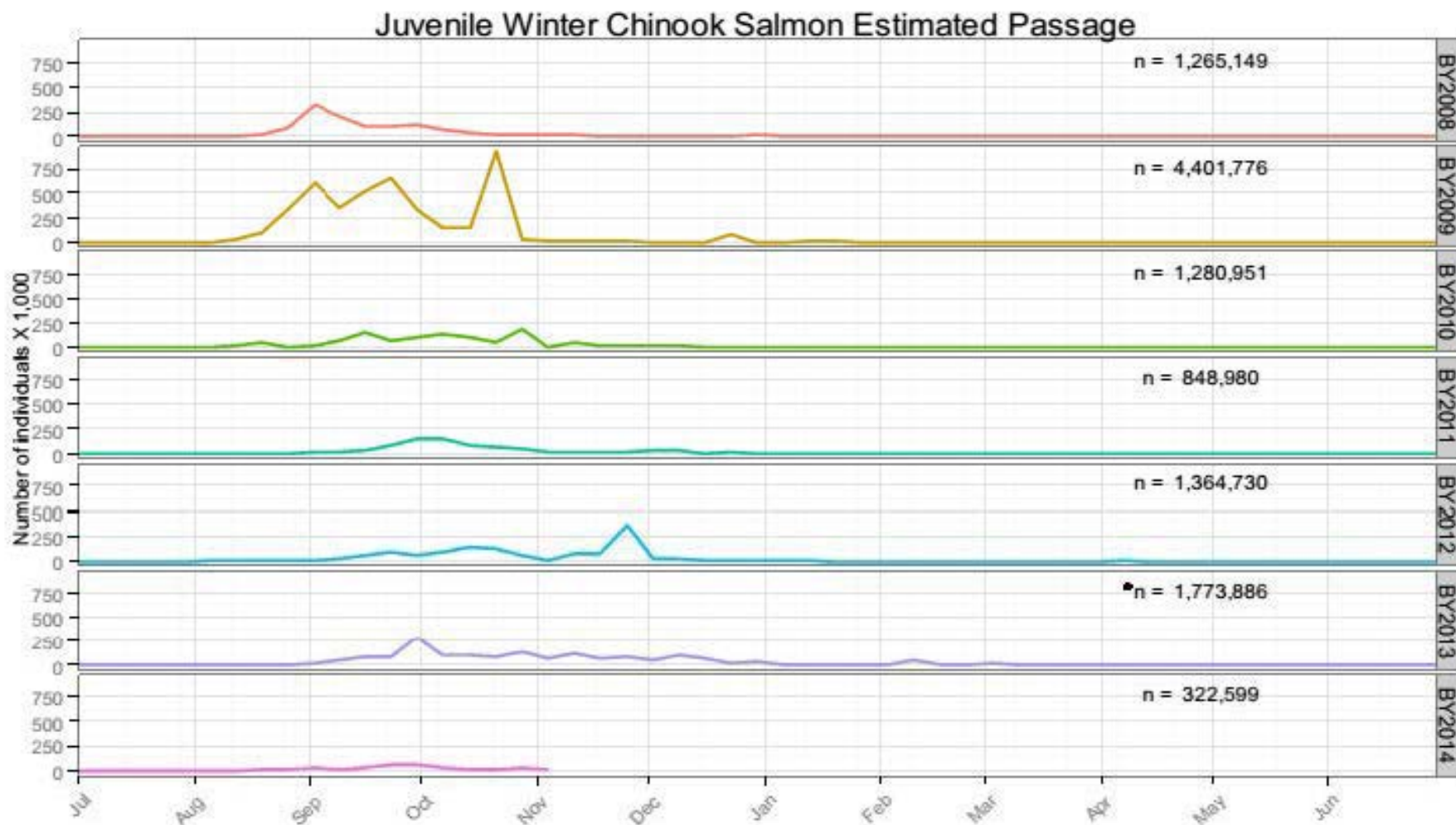


Figure 1. Weekly estimated passage of juvenile winter Chinook Salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period July 1, 2008 to present.

*Winter run passage value interpolated using a monthly mean for the period October 1, 2013 - October 17, 2013 due to government shutdown.

Figure taken from USFWS Biweekly report (October 22, 2014 – November 4, 2014)

2014 Fall-run Egg Temperature Mortality – Sacramento River

